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AS WE SEE IT

BY JOHN ATKINSON

THIS ISSUE: Is classical music on record heading for extinction?

When Caruso Was King

One of the benefits of belonging to the Institute of Electrical and Electronics Engineers (IEEE) is a subscription to their monthly magazine, *IEEE Spectrum*. Superbly written and edited, this journal keeps me up to date on emerging technology, and entertains me with things like reprints, on the final page, of vintage advertisements. Their January 2016 issue, for example, featured an ad from December 1920, promoting the Victor Talking Machine Company's Victrola: "By all means get a Victrola this Christmas, but be sure it is a Victrola and not some other instrument made in imitation. \$25 to \$1500. Victor dealers everywhere."¹

In 1920, "\$25 to \$1500" was the equivalent of \$300 to \$18,000 today—which is pretty much the range of what you need to pay to get a halfway-decent audio system or better. But what then caught my eye was the headline of the accompanying article, "When Caruso Was King," and a comment by its writer, Alexander B. Magoun: "As music formats have morphed from vinyl discs to cassettes to CDs and MP3s, the classical recording industry is nearly extinct."

Extinct? Not in 1920. As detailed in Roland Gelatt's superb 1965 book, *The Fabulous Phonograph*, the meteoric rise of both the record industry and the manufacturers who made the hardware on which to play records was tied to recordings of classical music. Not only was Enrico Caruso the Adele of his time, it was his 260-plus recordings on RCA Victor's Red Seal label that fueled the boom in "talking machines."

Extinct? Not when I was young. My evolution as an audiophile was fueled by recordings of classical music. When I was 11, my parents bought me the *Reader's Digest Festival of Light Classical Music*, a 12-LP collection of works ranging from Mozart's *Eine kleine Nachtmusik* to the overture to Wagner's opera *Tannhäuser*, all recorded by RCA's British A-Team of producer Chuck Gerhardt and engineer Kenneth Wilkinson. And when I started high school, we had a mandatory weekly lesson in "Music Appreciation," in which we were introduced to works like Sibelius's *Finlandia*, *Mars* and *Jupiter* from Holst's *The Planets*, and the *Scherzo* of Beethoven's Symphony 3, "Eroica," played on a mono system comprising a Leak "Sandwich" speaker driven by a Leak "Point One" tube amp. The first classical LP I bought with my own money was of the 1959 modern-instruments performances, by Sir Yehudi Menuhin and the Bath Festival Orchestra, of Bach's Brandenburg Concertos 1–3, followed by Tchaikovsky's Symphony 4 from the London Symphony Orchestra conducted by Igor Markevitch. And when I started putting together my own audio system in the mid-1960s, the better the components I bought, the better these LPs sounded. As, of course, did the rock albums I bought—by Cream, Jimi Hendrix, the Byrds, the Beatles—to feed my burgeoning hi-fi habit.

Extinct? Perhaps. As I read the article in *IEEE Spectrum*, I had just finished preparing our 2016 special issue, *10 Years of*

Records to Die For: a collection of reviews of 500 albums that *Stereophile's* hardware and software reviewers could not bear the thought of leaving behind. (See "Industry Update" on p.15 for more information about this special 148-page issue.) *Stereophile's* founder, the late J. Gordon Holt, strongly felt that classical orchestral music was the only music worthy of being played through a true high-fidelity system. Yet just 14 pages of this "Collectors' Edition" are devoted to Classical Orchestral recordings, compared to 20 pages for Jazz. The largest category is Rock (including Pop, Alternative, and Country), at 48 pages—a statistic that I'm sure has JGH reaching for another celestial cigarette.

Extinct? Perhaps yes. According to Nielsen Soundscan, in the US in 2013, classical sales were just 2.8% of the total sales of CDs, cassettes, LPs, and downloads.² This is less than half the figure I found for pre-CD 1983, when the amount of money spent in the US on classical records and tapes was 6% of the total, and undoubtedly rose through the rest of that decade as music lovers bought CDs to replace their classical LPs. But by the late 1990s, when *Stereophile Inc.* sold the *Schwann Record Guides* to Allegro, a record-distribution company, I was told by the purchaser that it was a rare classical CD that sold more than 1000 copies in its first year of release. And when you consider that schools no longer play classical music to their students and that classical radio stations are disappearing, it's difficult to see where new classical record buyers are going to come from.

Extinct? Perhaps not. Perhaps the statistics don't tell the whole truth. Audiophiles may pay large sums for classical recordings from the 1950s and '60s, when audio engineers didn't yet know enough to know how to ruin the quality of recorded sound—a subject close to JGH's heart.³ But I believe that we are living in a new Golden Age of classical recording triggered by the advent of high-resolution digital recording and powered by the advent of, first, the SACD medium, and now by high-resolution PCM and DSD downloads—all with sound quality that listeners of Caruso's era could only dream of.

And from their existing catalogs of classical CDs, record companies are offering complete collections at bargain prices. Last year, for example, I bought *Decca Sound: The Analogue Years*, a boxed set of 50 CDs, for \$120—just \$2.40 per disc. Similar collections are available from DG Archiv Produktion, DG, Philips, and L'Oiseau-Lyre, with prices per disc dropping to as little as \$1.

There's life yet in the music that fueled the fabulous phonograph: If you release it, they will listen. ■

John Atkinson (JAtkinson@enthusiastnetwork.com) was editor-in-chief of the UK's Hi-Fi News magazine from 1982 to 1986, and is approaching his 30th anniversary as editor-in-chief of *Stereophile*.

1 See <http://tinyurl.com/on8pyb9>.

2 See <http://tinyurl.com/zm8kscp>.

3 See www.stereophile.com/content/tin-eared-americans.



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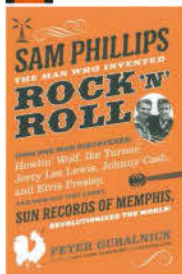
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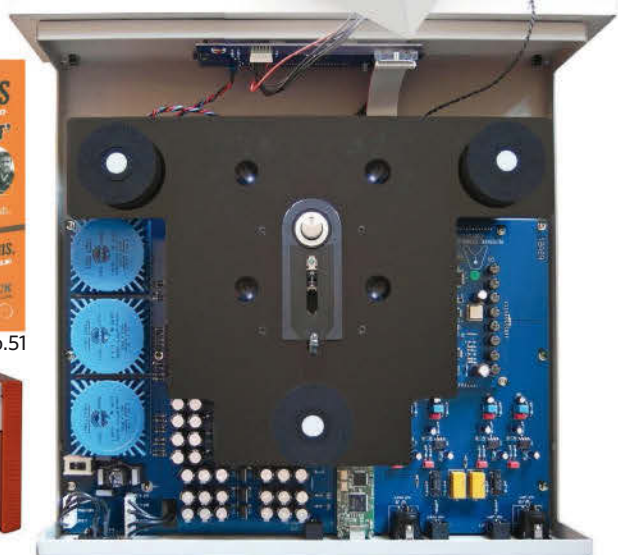
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Mono or Stereo. It's as old as Toe-MAY-Toe or Toe-MAA-Toe and yet in a new set of SACD and especially LP reissues from Chad Kassem and Analogue Productions, the Beach Boys' glorious Capitol catalog has never sounded better in either mono or stereo. Robert Baird listens and talks with the principals involved in these landmark productions.

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new recordings of Beethoven's *Symphony 9* and Richard Wagner's *Das Rheingold*. In Rock/Pop, the latest from Neil Young and Randall Bramblett get a critical listen. And finally in Jazz, there are new recordings by Jonathan Powell and Nu Sangha, John Raymond, and the trio of Nicole Mitchell, Tomeka Reid and Mike Reed.

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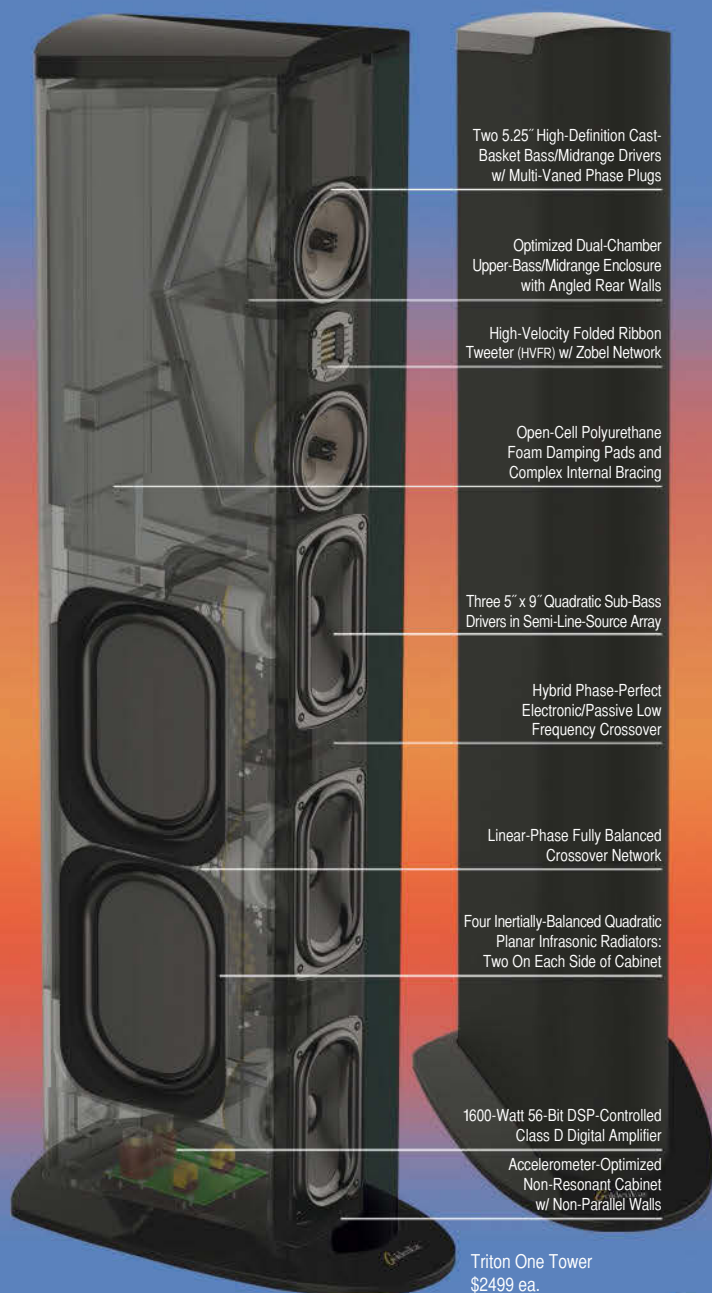


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"... the mere fact that it is not unreasonable to compare the sound of the \$4999 (pair) Triton One with the sounds of speakers costing tens of thousands of dollars more per pair says a lot about their level of performance ..." – Robert Deutsch, *Stereophile*



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– *Stereophile Magazine*

Winning Stereophile's Loudspeaker-of-the-Year, is perhaps, the highest honor that a loudspeaker can achieve. Plus, this is doubly significant for such an affordable loudspeaker as the One, when you realize that the co-winner sells for \$25,000 a pair, winners often sell for \$50,000, \$100,000, or \$200,000 a pair, and you have to go back to 2007 to find another winner under \$20,000 a pair (at \$18,000, not much under). And, of course, Borderline Class A is a similar, very special achievement, when you realize the average Class A speaker, this year, sold for \$54,000 a pair.

"An absolute marvel ... shames some speakers costing ten times as much."

– Caleb Denison, *Digital Trends*

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Triton One "creates visceral, tangible waves of pure audio bliss"

– Dennis Burger, *HD Living*

Great sound is what it is all about and the Triton Ones are, as HiFi+’s Chris Martens raved, *"jaw droppingly good ... one of the greatest high-end audio bargains of all time with a dazzling array of sonic characteristics that are likely to please (if not stun) the finicky and jaded of audiophiles"*. The Ones were specifically engineered to excel with all types of music as well as movies. Best of all, they offer previously unheard of value, as Brent Butterworth wrote in Sound & Vision, *"I heard a few people saying the Triton One sounded like some \$20,000-and-up high-end towers, but I disagree: I think they sounded better than most of them"*. Darryl Wilkinson summed them up best, *"A Masterpiece ... GoldenEar has fully ushered in the Golden Age of the Loudspeaker"*. Hear them for yourself and discover what all the excitement is about.

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LETTERS FEEDBACK TO THE EDITOR

The Magnepan rating

Editor:

"Class C (Restricted LF)" for the Magnepan .7 ("Recommended Components," October 2015, p.131)? Are you serious?

—Francisco Claudio Barroso Botelho
barrosobotelho@gmail.com

Always.—John Atkinson

Clam fishing

Editor:

In his review of the Questyle Audio QP1R (December 2015, p.139), John Atkinson reacts to Paul Desmond's "clam," as he calls it, in the second chorus of "Blue Rondo à la Turk." His reaction is amusing and surprising. He asks why no one has ever previously mentioned this "mistake." The answer is simple: it's not important enough to even mention. I have been listening to this great and timeless album since its release in 1959. The note that Mr. Atkinson has an issue with is the sound of a man playing an instrument. It has been said that even Vladimir Horowitz occasionally hit a wrong note.

In the spirit and context of *Stereophile*—beautiful recordings of natural-sounding music—I'm surprised that Mr. Atkinson is so concerned with one note on one of the greatest jazz albums ever recorded. Mr. Atkinson suggested that an alternate take should have been used in place of the cut on the album. I have never heard or read of an alternate take of any of the cuts on *Time Out*. Desmond didn't play the wrong note; he slightly misplayed the right note.

—Allan V. Pena
JLAPena415@aol.com
San Pedro, Calif

Thanks for writing, Mr. Pena. I am told that this track, unlike the rest of Time Out, wasn't actually recorded at Columbia's famous 30th Street Studio, in Manhattan, but during rehearsals in the sun room of Dave Brubeck's house. The band liked the feel so much that the producer edited the master from the two hours of rehearsal tape; I assume that there wasn't a covering take for Desmond's clam.

In situations like this, record producers tend to feel that the artist should be presented at his or her best. Paul Desmond probably never blew a clam like this in any other performance of this song, so by preserving it on the released album,

he is being done a disservice. As I wrote, once you hear it, you can't unhear it; it becomes like the hole in your tooth that your tongue can't leave alone.—John Atkinson

Be careful what you wish for

Editor:

I'm a longtime subscriber who has been sadly losing interest in *Stereophile*, not because of the lack of quality, but rather because of just how hard it is to buy music today.

I remember fondly every era of my journey of discovering new artists, better gear, and the myriad stories associated with acquiring each. My earliest memories of buying music were at the various chain stores in malls. Each trip found me going there for one or more specific records, but always coming home

Forget iTunes and their lossy shit.

with many more. I remember always thinking, "How awesome it would be to have this much music at home?!" Well, I know my collection today is not as large as those stores' inventories were so long ago, but sadly, my music collection still far outweighs the current offerings at the one and only F.Y.E. in my town. In case you haven't been to F.Y.E. in some time, you will probably discover that it is now a mere toy store, filled more with video games and movie paraphernalia than actual music.

Yes, I could go online to buy every vinyl or CD, but how fun is that? I've done that now for the last 10 years or so, and frankly, I find it a soulless experience. Never imagined I'd lament the end of those shiny discs that audiophiles either

TAKE HEED! Unless marked otherwise, all letters to the magazine and its writers are assumed to be for possible publication. In the spirit of vigorous debate implied by the First Amendment, and unless we are requested not to, we publish correspondents' e-mail addresses.

love or hate, but miss them I do. Also, I'm very much missing the joy and spontaneity of discovering a new artist, and rushing to the mall to get everything they had in stock of said artist. Today's joy of discovery is something else entirely. One discovers the artist, but then one is often required to go the online route, and yet again wait days to hear more of the artist. Forget iTunes and their lossy shit. I'll wait till I get the hard copy, and import it into my music server in a lossless manner.

As you well know, one hand feeds the other. I've no idea how well the entire audio industry is doing now, but it can't be very healthy when buying music has become a rare occurrence for the millennial generation.

—Robert Shatzer
rshatzer64@embarqmail.com

RIAA vs Columbia

Editor:

As a longtime admirer of Michael Fremer's articles for *Stereophile*, I mean no disrespect in asking him a simple question. My superb Zanden phono pre-amplifier has a switch for three recording equalizations. Not surprisingly, all of my RCA Victor LPs sound best on the RIAA setting. However, this is not true of a number of my old Columbias from the 1960s; they sound much better with the Columbia equalization than with the RIAA. Why is that?

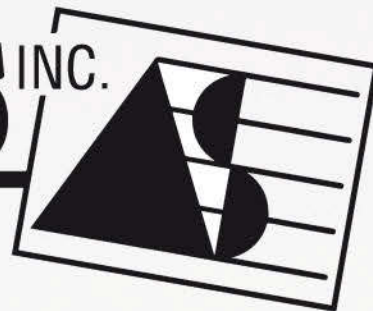
—Anthony G. Henderson
anthonyhenderson97@gmail.com

The various EQ settings, Mr. Henderson, behave as "tone controls." While using these curves as tone controls can produce objectively "better" results, which sounds "better" is always a subjective issue. However, the fact is that, in the mid-1950s, Columbia Records adopted the RIAA curve. I've received e-mails from three retired Columbia Records mastering engineers who have told me so. One was so disturbed to read an online post by an audiophile who insisted that his 1970s Bob Dylan albums were "clearly" mastered using the Columbia curve because they sounded "better" that way, that he accused that audiophile (in his e-mail to me) of "smoking crack." The sounds of many Columbia records of that era, particularly classical records, had a hard, hazy edge. The old Columbia curve may tame that edge, but that doesn't mean the record was cut with the Columbia curve.—Michael Fremer

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— Chris Martens, *HiFi+*, Issue 129



SPENDOR D7

STEREO SPEAKERS

FINISHING AVAILABLE IN:
BLACK ASH, CHERRY, DARK
GLOSS, & DARK WALNUT

The Spendor D7 delivers music with a fresh vibrant realism that conventional loudspeakers cannot match. This new level of performance is the direct result of important Spendor innovations. The Spendor LPZ tweeter is built around a stainless steel front plate that forms an acoustic chamber directly in front of the lightweight diaphragm. The phase correcting microfoil equalizes sound wave path lengths while generating a symmetrical pressure environment so the tweeter operates in a balanced linear mode. The D7 mid-bass drive unit has an advanced EP77 polymer cone, while the low frequency drive unit uses a bonded Kevlar composite.



MOJO MOBILE HEADPHONE AMP

BY CHORD ELECTRONICS LTD
MOBILE HEADPHONE AMP & DAC



The new Chord Electronics Mojo is entirely designed and manufactured in England. Mojo stands for 'Mobile Joy' and Chord is justifiably proud to say that Mojo is a true reference-quality mobile DAC and high-level headphone amplifier; its performance can truly rival DACs at twenty times its price.

Its ultra-compact design is based on the Hugo platform, but Mojo uses the new Xilinx Artix-7 FPGA, making Mojo the most advanced DAC of its type on the planet! It has been designed to be easily operated: there are no confusing or superfluous switches — it is devoid of the bewildering number of switch options common to similar devices. Mojo is capable of driving any headphone between 4 ohms and 800 ohms and can drive two pairs of headphones simultaneously. It can work with any music file from 44.1kHz up to 768kHz and DoP DSD files: DSD 64; DSD 128 and DSD 256. Mojo can decode a wide range of formats, too: PCM; WAV; AAC; AIFF; MP3; FLAC; DFF and DSF files and is designed to work with all smartphones and music players.



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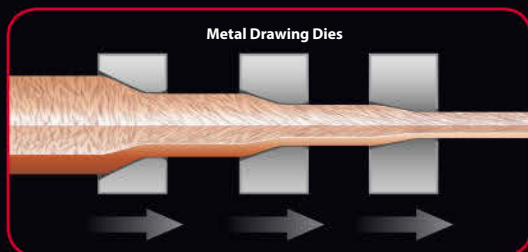
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Directionality: It's All About Noise



If you've ever wondered about the arrows on AudioQuest cables, read any of our educational materials, or merely followed any of the online chatter regarding our products, perhaps you've wondered what this "directionality" thing is all about. Maybe you've even made the incorrect assumption that it's the analog or digital signal that's directional.

There is the widely accepted version of directionality: In most audio-grade shielded interconnects, as compared to standard coax, negative has its own internal conductor and the metal shield is attached to ground at only one end, thus defining the cable's directionality. Many cable manufacturers end their exploration of directionality there, going only as far as to mark their cables for directionality based on the relationship of shield to ground, but altogether neglecting *conductor* directionality. Because we believe in directing noise to where it can do the least harm, we, too, believe in the advantages of controlling for the attachment of the shield. In fact, long before we controlled for conductor directionality, AudioQuest interconnects were also controlled for direction based on the relationship of shield to ground.

Over the years, our understanding of conductor directionality and its effect on audio performance has steadily evolved, growing stronger and more complete. While we've always been keenly aware that directionality plays a significant role in the overall sound of any hi-fi system, we couldn't completely explain it. This was okay: We trust our own ears and encourage listeners to do the same. The test is easy enough: Simply listen, then reverse the direction of the cable, and listen again.

In one direction, music will sound relatively flat and a little grainy, as though being forced through a screen door. In the opposite direction, the obstruction is removed and music will be communicated with a natural ease, depth, and an open invitation to pleasure. When presented with a cable whose conductors have been controlled for the correct low-noise directionality, a listener feels a sense of comfort and relief: *Ahh...Music!*

But the definitive empirical evidence of directionality demands seeking a scientific explanation. What is the *technical* explanation for directionality?

In order to fabricate copper or silver into a strand or conductor, it must first be cast and then drawn through a die—a process

that inevitably creates a directional, chevron-like pattern in the conductor's internal grain structure and a non-symmetrical overlay of grains at the conductor's surface.

While most are either unaware of conductor directionality or have chosen to ignore it, we have learned to use conductor directionality to our advantage.

A conductor's asymmetrical surface structure causes a directional difference in impedance at noise frequencies and very high interference frequencies. Due to skin-effect, such high-frequency energy travels almost exclusively on the surface of a conductor, giving significance to the directional difference in impedance at these frequencies. Because all energy will *always* take the path of least resistance, when a cable is oriented so that the high-frequency noise—whether from a computer, radio station, cell tower, etc.—is "directed" to ground, or to the end of the cable attached to less vulnerable equipment, the dynamic intermodulation and associated ringing generated in the active electronics will be greatly reduced.



Noise-Dissipation System, Dielectric-Bias System, JitterBug USB filter, Niagara 1000, and Niagara 7000—all work toward the proper dissipation of noise to enable cleaner, clearer, more naturally beautiful music.

Our efforts toward the proper dissipation of noise are not limited to our analog and digital cables, but extend to other AudioQuest products, as well—most recently evidenced in our Niagara 1000 and 7000 Low-Z Power Noise-Dissipation Systems, in which every single link in the conducting path has been properly controlled for low-noise directionality.

As always, the proof is in the listening.

The unpleasant, strained sound that occurs when conductors have the wrong orientation is the result of noise entering and causing misbehavior and intermodulation in an active circuit. The more relaxed, full-bodied sound of correctly oriented conductors is the product of less high-frequency interference—conductor directionality fully acknowledged and put to its best use!

Ahh...Music!

audioquest

INDUSTRY UPDATE

AUDIO NEWS & VIEWS

US: YOUR LOCAL NEWSSTAND

John Atkinson

Audiophiles are often accused of being interested in the gear first, and in music a distant second. Yes, we all love our audio systems, but owning such a system would be pretty pointless if we didn't have music to play on it. Something that *Stereophile's* reviewers have in common is that, no matter how expensive their audio systems, their collections of recorded music are worth more. So at the beginning of each of the last 25 years, this magazine has celebrated its love of music by publishing "Records to Die For," aka R2D4: a list of the two albums that each reviewer, whether of equipment or of music, could not, that year, bear the thought of leaving behind.

Available on newsstands as you read this issue is a special 148-page "Collector's Edition" of *Stereophile*, in which we have compiled all of the reviews comprising the past 10 years' worth of R2D4—some 500 albums selected by 46 writers, organized by musical genre and listed alphabetically. Along with six short essays on recorded music by the magazine's music editor, Robert Baird, there are: 48 pages of Rock reviews, 20 pages of Jazz reviews, 15 pages of Opera & Vocal reviews, 14 pages of Classical Orchestral & Film Score reviews, 9 pages of Chamber Music & Instrumental reviews, and 10 pages of



Available on newsstands as you read this issue is a special 148-page "Collector's Edition" of *Stereophile*.

Folk, Blues & World Music reviews. If you bought every one of these 500 albums, you would have an extraordinary record collection.

Stereophile: 10 Years of Records to Die For costs \$7.99 and can be found at your newsstand and bookstore now.

US AND UK: PMC LTD. AND THE WU-TANG CLAN

Paul Messenger

The American hip-hop band Wu-Tang Clan has taken the concept of a limited edition to its logical conclusion. Two members of the Clan have created an album, *Once Upon a Time in Shaolin*, that was made available in an edition limited to a single copy. It was sold at auction in Morocco last May for \$2 million, to a multimillionaire private collector subsequently identified as Albanian-American entrepreneur Martin Shkreli. Conditions of the sale included a ban on the recording's commercial exploitation (playing it for free is permitted) for the next 88 years, and

that neither physical nor digital duplicates of the music could be made.

The entire affair has been embroiled in controversy. Some members of the Clan disagreed with the whole concept, which was originally the idea of Clan members Tarik "Cilvaringz" Azzougarh and Robert "RZA" Diggs. Soon after the auction, Shkreli attracted considerable public opprobrium when, as CEO of Turing Pharmaceuticals AG, he took over the manufacture and distribution of Daraprim, a drug used to treat HIV, and promptly raised its retail price from \$13.50 to \$750 per tablet—an increase of 5556%. The Wu-Tang Clan reacted by promising to give away much of the auction

SUBMISSIONS: Those promoting audio-related seminars, shows, and meetings should e-mail the when, where, and who to JAtkinson@enthusiastnetwork.com at least eight weeks before the month of the event. The deadline for the May 2016 issue is February 20, 2016.

CALENDAR OF INDUSTRY EVENTS

ATTENTION ALL AUDIO SOCIETIES:

We have a page on the *Stereophile* website dedicated solely to you: www.stereophile.com/audiophile-societies. If you'd like to have your audio-society information posted on the site, e-mail Chris Vogel at info@XLinkAudio.com.

Please note that it is inappropriate for a retailer to promote a new product line in "Calendar" unless this is associated with a seminar or similar event.

ARIZONA

■ Wednesday, February 24, 7-9pm: The **Arizona Audio Video Club** will hold its monthly meeting at **Esoteric Audio**, to celebrate the reopening of this storied audio store in its new location, in downtown Phoenix (111 W. Monroe Street, Suite 100, Zip 85003). Audio can be sampled from such superb brands as **Aesthetix**, **Basis Audio**, **Boulder**, **Devialet**, **Focal**, **Rockport**, **VTL**, and many more. You can visit Esoteric Audio's website at www.esotericaudioaz.com, and you can always get more information about the Arizona Audio Video Club at our website, www.azavclub.org.

CALIFORNIA

■ Sunday, February 21, 2-5pm: The **Los Angeles & Orange County Audio Society** will hold its monthly meeting at **Scott Walker Audio**, in Anaheim (1215 N. Tustin Avenue). Building on last year's huge success, Scott Walker will host "The Best in Affordable High-End Audio: Part II." He will have six demonstration rooms showcasing some of the highest-value high-end gear currently available. Complete systems will range in price from \$1500 to \$15,000. Presenters to be announced. **Eastwind Import** will be on hand to offer personally selected LPs and CDs for sale. A raffle is planned, a wonderful lunch will be



Left: The Wu-Tang Clan's Robert "RZA" Diggs with his PMC MB2-XBD monitors. **Above:** Taking "limited edition" to its logical conclusion: the Wu-Tang Clan's *Once Upon a Time in Shaolin* album with a pair of PMC's MB2-XBD monitors on which it was mastered.

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proceeds to charity. And in December 2015, Shkreli was arrested by the FBI, for matters relating to earlier business activities.

One reason we got to hear about these outrageous events is that British loudspeaker maker PMC Ltd. was asked by Clan producer Diggs to supply Shkreli with a pair of PMC's enormous two-box MB2-XBD monitors, each of which has two 12" transmission-line-loaded woofers, as part of the complete album package. A pair of MB2-XBDs was used during the recording and mixing of the album at a studio in Staten Island, New York; this way, the purchaser could hear the work precisely as the musicians intended.

Once Upon a Time in Shaolin itself is a double album that allegedly comprises a retrospective, 128-minute-long "aural screenplay" of some 31 songs, skits, and stories. The album was presented in a hand-carved box of nickel-silver and is accompanied by a 174-page manuscript containing lyrics, credits, and anecdotes about the production of each song, printed on gilded parchment and encased in leather. As Miss Piggy might have put it, "Pretentious? Moi?"

UK: TESCO SUPERMARKETS

Paul Messenger

Tesco, Britain's answer to Walmart, is an enormously powerful chain of retail supermarkets that began in grocer-

By 2014, vinyl sales in the UK reached £26 million (\$38.7 million).

ies and has since expanded into many other markets. Nonetheless, I was surprised when I recently heard that Tesco was about to sell LPs. The range will at first be limited to some 20 titles priced at £12-£20 each (\$18-\$30), and will include longtime big sellers from the likes of Elvis Presley, Bruce Springsteen, and Nirvana. While this has long been the practice of supermarkets that sell records, the very fact that such an enormous mainstream retailer as Tesco plans to sell LPs again indicates the strength of the UK's vinyl revival.

served, and parking is free. Guests, visitors, and new members are invited. For more information, visit www.laocas.com or call Bob Levi at (714) 281-5850. ■ Sunday, March 20, 2-5pm: The **Los Angeles & Orange County Audio Society** will hold its monthly meeting at **Upscale Audio**, in Upland (2504 Spring Terrace). The event will be hosted by the "Tube King" himself, Upscale Audio's own

Kevin Deal, who will present his latest personal tube-search adventures, and give tours of his workshop and warehouse full of exotic tubes! Listen to and learn about **PrimaLuna** electronics, **Sonus Faber** loudspeakers, **Kiseki** phono cartridges, and more! A special industry guest appearance is in the works. **Eastwind Import** will provide new imported LPs and CDs for our shopping

fun. A raffle is planned, a terrific lunch will be served, and visitors and new members are welcome. Parking is free. For more info, visit www.laocas.com or call Bob Levi at (714) 281-5850.

■ Friday-Sunday, June 3-5: **THE Show** takes place at The Hotel Irvine, 17900 Jamboree Road, Irvine, CA 92614. Visit <http://theshownewport.com/#more-info> for more information.

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As recently as 2009, vinyl sales in the UK totaled only about £3 million (\$4.5 million); by 2014, the total had reached £26 million (\$38.7 million). Vinyl still represents only about 3% of the total sales of LPs, CDs, and downloads—but sales of LPs nearly doubled in 2015, and could double again this year, even as sales of CDs and downloads continued to steadily decline, presumably in favor of streaming. While Tesco's initiative might result in little more than sales of a few more LPs of *Sticky Fingers*, it will give great heart to all vinyl enthusiasts.

UK: LONDON

Paul Messenger

The idea of bringing together the hardware and software sides of the music business is often mooted but seems rarely to happen, so the Futuresource Audio Renaissance Conference, organized by Futuresource Consulting and held in London's Ham Yard Hotel last October, seemed particularly worthwhile. I suspect I got invited through Meridian Audio's desire to promote its new MQA digital codec, but the whole idea of bringing these two normally disparate worlds together was worthwhile, and may have been inspired by the falling revenues of tradi-

It seems inevitable that most people will soon be streaming their music directly from the Internet via smartphones and tablets.

tional record labels due to recent rapid changes in music-delivery systems.

Much of the day was devoted to discussing the emergence of streaming music directly from the Internet, and how best to make money from the growing numbers of customers who seem content to use such services, despite losses of sound quality from digital compression, and of listening experience through advertisements. Although Spotify has become the market leader, figures suggest that only around a quarter of the streaming service's users pay a subscription fee for Spotify's ad-free service. The company also has rivals offering true CD quality, including Deezer, Qobuz, and Tidal, with nearly half of Tidal's new subscribers opting for Tidal HiFi instead of the lower-quality Premium 320kbps service.¹

With larger operations, such as Amazon, Apple, and Google, now getting involved, it seems inevitable that most people will soon be streaming their music directly from the Internet via smartphones and tablets, and listening to it through headphones, soundbars, and Bluetooth or Wi-Fi speakers. However, the increasing strength of vinyl suggests that a growing minority of listeners continues to embrace the higher-quality experience of listening to music through serious hi-fi equipment. It's likely that this minority will remain a minority—hi-fi listening has always appealed to only a small percentage of listeners, a situation that seems likely to continue, regardless of any new developments in mass-market delivery systems and playback equipment. ■

¹ See Michael Lavorgna's reports at www.audio-stream.com/content/tidal-hifi-people-care-about-quality and <http://tinyurl/j47nouq>.

ON THE WEB

For news and show reports:

VISIT WWW.STEREOPHILE.COM

FLORIDA

■ Saturday, February 20, 1-4pm: The **Suncoast Audiophile Society** will hold its monthly meeting in the Community Center of Sun City Center (1009 N. Pebble Beach Boulevard, Sun City Center 33573). Douglas Hurlburt (founder and designer) and David Skolnik (sales and marketing), of Naples-based **Dynamic Sounds Associates**, will present the latest versions of their Phono II phono preamplifier and Pre I line-stage preamplifier in a system also featuring **Kanso**, **Luminous**, **Miyajima**, **Ortofon**, **Spendor**, **Tweek Geek**, and **VPI**. RSVP to Alan Nastir (SAS) at suncoastaudiophilesociety@gmail.com, or to David Skolnik (DSA) at david@dynamicssounds-assoc.com or (386) 873-2388.

ILLINOIS

■ Friday-Sunday, April 15-17: The 2016 **AXPONA show** will be held at the Westin O'Hare (6100 N. River Road, Rosemont). Visit www.axpona.com for more information.

MINNESOTA

■ Tuesday, February 16, 7-9pm: Roger Sanders, founder and CEO of **Sanders Sound Systems**, in Conifer, Colorado, will be joining the **Audio Society of Minnesota** for an evening of spirited discussion about new ways to appreciate audio conventions. Roger will take up the controversial topic of preconceived notions in the audiophile community and how they can obstruct our ability to obtain the best sound possible. The meeting will be held at the Pavék Museum of Broadcasting (3517 Raleigh Avenue, St. Louis Park 55416). Refreshments will be served, and guests, visitors, and new members are welcome. For more information, visit our website: www.audiomn.org.

■ Tuesday, March 15, 7-9pm: Ralph Karsten, of locally based **Atma-Sphere Music Systems**, will be on hand to present his company's new UV-1 tube preamplifier, along with other high-end tube amplifiers from Atma-Sphere. The meeting will be held at the Pavék Museum of Broadcasting (3517 Raleigh Avenue, St. Louis Park 55416).

Refreshments will be served, and guests, visitors, and new members are welcome. For more information, visit our website: www.audiomn.org.

WASHINGTON

■ Friday, March 4, 5-9pm: **Nuts About Hi-Fi** (9960 Silverdale Way, Silverdale) will host an evening with Jim White of **Aesthetix Audio**, who will introduce the Metis line stage and Atlas Eclipse mono amplifiers. Garth Leerer and Jesse Luna, of **Musical Surroundings**, will demonstrate new products from **Clearaudio**, including the Double Matrix Professional Sonic record-cleaning machine. Refreshments will be served. RSVP: (360) 698-1348. For more info, visit www.nutsaboutifi.com.

CANADA

■ Friday-Sunday, March 18-20: The Chester Group's **Salon Son & Image** show takes place at its traditional venue, the Hotel Bonaventure Montreal (900 Rue de la Gauchetière Ouest, Montreal). For more information, visit www.chestergroup.org/salonsonimage/2016.



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— Robert Deutsch, *Stereophile*, December 2014



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ANALOG CORNER

BY MICHAEL FREMER

THIS ISSUE: State-of-the-Art
LP playback from Europe.

Feickert's Sweet Firebird

Dr. Feickert Analogue's top-of-the line turntable, the Firebird (\$12,500), is a generously sized record player designed to easily accommodate two 12" tonearms. Its three brushless, three-phase DC motors, arranged around the platter in an equilateral triangle, are connected to a proprietary controller in a phase-locked loop (PLL); according to the Firebird's designer, Dr. Christian Feickert, a reference signal from just one of the motors drives all three—thus one motor is the master while the other two are slaves. (Man, today that is politically incorrect, however descriptively accurate.) Feickert says that the key to this drive system is the motor design, which was done in close consultation with its manufacturer, Pabst. The result is a feedback-based system in which the controller produces the very low jitter levels claimed by Feickert.

A complete redesign of the inverted platter bearing used in the Firebird and in Feickert's two other turntables, the Woodpecker and Blackbird, is claimed to reduce the contact area between spindle and bearing well by 80%, in order to reduce friction and, in turn, rumble, wow, and flutter. (Good thing: The original Blackbird, which I reviewed in my September 2011 column, wasn't the quietest bird on the block.) Riding on the inverted bearing is a 13.23-lb platter of polyoxymethylene (POM), which is said to have resonance characteristics similar to those of vinyl itself; embedded within that platter, close to its outer edge, are eight solid brass cylinders. Feickert says that his three-motor arrangement, in which the platter is evenly driven by a thick, precision-ground belt made of nitrile butadiene rubber (NBR), results in a more stable bearing and platter by canceling out "virtually all acting forces," to effectively eliminate bearing and platter wobble.

The Firebird weighs 68.5 lbs, and its plinth is large: 22" wide by 6.25" high by 18.25" deep. Its thin upper and lower aluminum-alloy plates sandwich a block of treated MDF, and it sits on (newly designed) adjustable feet. The plinth is available in natural or black-anodized alloy, with side panels of zebrawood or piano-black lacquer.

Feickert's arm-mounting system makes installing, adjusting, and swapping out tonearms more convenient than on many turntables. In each rear corner of the plinth is a large, oval, diagonally oriented cutout; the one on the right can accommodate arms with effective lengths of from 9" to 14", the one on the left arms of 9" to 12". Each cutout can be fitted with a circular armboard that bolts to a pair of sliding, captured nuts, one nut on each side of each cutout. A notch



Three motors, no waiting: the Dr. Feickert Firebird.

Feickert says that his three-motor arrangement results in a more stable bearing and platter.

in the rim of the armboard aligns with a scale calibrated in millimeters and silk-screened on the plinth, for measuring the distance from the tonearm's pivot to the center of the platter's spindle—obviating, in most cases, any need for a pivot-to-spindle protractor. This makes swapping tonearms easy, assuming you've already mounted your other arms on Firebird armboards *and*

that their pivots coincide with the centers of those armboards. Otherwise, as with tonearms that have off-center pivots—eg, the Kuzma 4Point, the Tri-Planar, and the Reed 3P—you'll need to use a protractor capable of measuring pivot-to-spindle distance. Dr. Feickert Analogue, among others, makes such a protractor.

A single armboard is included in the Firebird's price; to make use of the turntable's second arm cutout, the user must add to it a Delrin "slider" (\$100) and purchase an additional armboard (\$125 each). The Firebird's platter bearing is warranted for five years, everything else for two years.

RELATIVELY EASY SETUP: I placed the Firebird's 68.5-lb plinth atop a Harmonic Resolution Systems isolation base, made sure that both base and plinth were level, then attached to the plinth's underside the L-shaped mini-plug for the power supply. After applying to the bearing spindle a decent amount of the supplied lubricant, I carefully lowered the platter into place and waited for it to fully seat itself. That wait over, on went the belt. The only sticking point was getting the armboard bolts into those sliding metal nuts. It wasn't easy, but only those who like to swap arms in and out will have to bother with it.

The Firebird can spin at 33 1/3, 45, and 78rpm; plus and minus buttons permit easy speed adjustment, if needed. The speed controller comes precalibrated, but I nonetheless checked it with Dr. Feickert Analogue's PlatterSpeed software and 7" test record. All three speeds were spot on, and

remained so throughout my listening. See figs.1 and 2 to check out the measured results at 33 $\frac{1}{3}$ rpm: They're very good, and unusually symmetrical (perhaps because of the equilateral three-motor drive system?), though the low-pass-filtered trace (fig.2, wavy green line) seems to indicate the constant correcting action of the controller. Still, the filtered results look good, if not the best I've measured.

NINE INCHES—MORE THAN LONG ENOUGH

FOR ME! Despite their popularity in some circles, I've never been a big fan of 12"—or longer—tonearms. (What were *you* thinking?) I've long believed that whatever benefits are gained with longer arms' lower theoretical tracking error and need for less anti-skating force are more than offset by their lower rigidity, their amplification of any errors made in setting overhang or zenith angle, and, especially, problems resulting from the arm's greater moment of inertia—*ie*, a tonearm's ability to handle a record groove under dy-

namic conditions.

This has also been the conclusion of the designers of Continuum Audio Labs' 9" Cobra tonearm (\$12,000) and, more recently, of Marc Gomez, who designed the Swedish Analog Technologies arm (\$29,000). In fact, the SAT arm is actually somewhat *shorter* than Rega Research's own tonearm—long a de facto standard—all models of which have an effec-

tive length of 239mm (9.321"). Gomez, who has a master's degree in mechanical engineering and materials sciences, says that whatever tracking-error distortion a shorter arm introduces is more than offset by its greatly superior performance under dynamic conditions. Listening to his SAT arm sufficiently convinced me of that that I plunked down, without regret, five figures' worth of retirement income. Of course, more than its length is involved in the sound of the SAT arm. (That said, I also own and love the 11" Kuzma 4Point.)

So, when Axxis Audio's Art Manzano offered a Reed 3P for review, I chose the 9" version and attempted to mount it in the Firebird's right-hand corner, with my Kuzma 4Point in the left. But that didn't work—the Reed's pivot assembly was where the Kuzma's long headshell wanted to be.



Fig.1 Dr. Feickert Analogue Firebird, speed stability data.

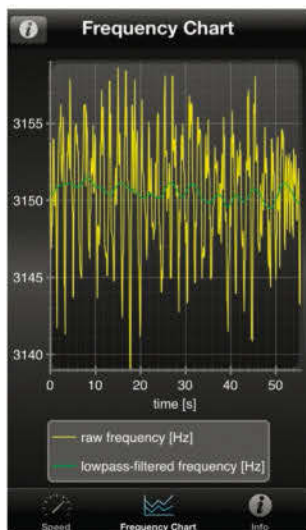


Fig.2 Dr. Feickert Analogue Firebird, speed stability (raw frequency yellow; low-pass filtered frequency green).

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Nor was it possible to mount and conveniently use the Reed arm on the left with the Mørch DP8 arm (9.25" effective length) on the right. These shorter arms have a shorter pivot-to-spindle distance, which puts both of them closer to the platter; when correctly set up, these arms, too, interfered with each other.

So I ended up doing much of my listening with just the very familiar Kuzma 4Point mounted on the Firebird's right armboard. Later, I managed to mount and use the Mørch and Reed arms—but in order to use the Reed on the left mount without it banging into the Mørch, I had to move the Mørch from its rest, then carefully lift the stylus of the cartridge mounted in the Reed *over* the widely spaced side weights of the Mørch. I was able to use both arms, but not easily.

From all of this, I concluded that while the Firebird is perfectly suited to be used as designed—*ie*, with one or two 12" tonearms—before buying you should carefully check for its compatibility with whichever two arms you're considering or already own, and know that you'll still be comfortable if your favored arm might have to be mounted

on the Firebird's *left* armboard.

My experience with the Firebird challenged two long-held opinions: First: *The best platter motor is no motor at all.* But because a platter must be rotated by *something*, you have to compromise. But why *triple* the noise by adding two more motors and their pulleys, knowing that it's virtually impossible to machine either to sufficiently low tolerance to prevent chatter? Second: *The best plinth is no plinth at all.* But, again, you need one, so you'd better make it as small as possible, to avoid a large, resonating surface.

The Firebird has made it clear that if enough design attention is paid to the motors, pulley tolerances, mounting arrangement, controller, and interface between motors and platter, the problems of noise and jitter can be, if not completely solved, then reduced to near-irrelevance, leaving intact all of the benefits Dr. Feickert Analogue claims for the design. In fact, when I placed a stethoscope on the Firebird's plinth close to each of its motors, I heard near silence—and far less noise than I've heard from many *single*-motor designs I've 'scoped. Same with the Firebird's heavy, well-damped plinth:

When I tapped it, I heard near-silence, whether from the stethoscope or my speakers.

In short, if a manufacturer's aim is to make a turntable with a big plinth and the alleged benefits of three motors, it should be done right. In the Firebird, Christian Feickert has. And if *your* aim is to own a turntable that can easily and competently handle two 12" tonearms, the Firebird is well worth considering. But if you're considering buying or already own a 9" arm or two, spending \$12,500 on a Firebird buys you an awful lot of costly, unnecessary real estate.

SMOOTH SOUND: The Firebird's sound gave me a sensation of gliding smoothness and a sophistication of leading-edge transients. It avoided rough, hard edges as well as over-smoothed transients, but it definitely leaned toward the latter.

Tonally, the Firebird had a pleasing neutrality, and excelled in the mid-range, which was particularly rich and full bodied. High- and low-frequency extension were very good, but in my opinion, well-damped metal platters produce more crystalline, more precisely drawn highs, and a more



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concentrated and impactful bottom end, with decays that plunge faster into “black.” While POM isn’t exactly acrylic, it’s similar enough to produce acrylic’s pleasingly smooth but somewhat soft overall sound, which is less than dynamically punchy, but which many listeners prefer.

If you mostly listen to small-ensemble classical music or acoustic jazz, the Firebird’s strong suits will carry the day—you’ll have to look hard to find sweeter tone and suppleness in massed strings. But if you’re a rocker or mostly listen to large-scale symphonic works, you’ll find that greater dynamic slam, low-frequency punch, and fireworks-like transients can be had elsewhere for

about the same price.

CONCLUSIONS: The Firebird’s strong suits were tonal neutrality from top to bottom, and an especially smooth, lush, delicately drawn midrange. Its speeds remained precisely correct during the review period, with fluctuations that were small, consistent, and symmetrical. No wonder it achieved such a pleasing textural smoothness and was so free from etch and grain.

In terms of attack, sustain, and decay, the Firebird’s overall sound indicates careful design that has avoided the sonic thickness and loss of control that, respectively, can be caused by over- or underdamping.

While the Firebird takes Christian Feickert’s design concepts to their extremes of performance and price, I suspect that the sweet spot of performance for price in the Dr. Feickert Analogue turntable line is the redesigned Blackbird—especially if you enjoy its overall sound and plan on sticking with one or even two 9" tonearms. If you do, paying for the Firebird’s extra real estate won’t make sense.

But if you’re looking for an all-in-one turntable that avoids the hassles of outboard tonearm and motor pods and can accommodate two or more 12" arms, the Firebird is well worth considering. I greatly enjoyed my months of listening with it.

FROM ITALY, VIVA AUDIO'S LUXURIOUS FONO MC PHONO PREAMPLIFIER

Viva Audio was founded in 1996, and their Fono moving-coil phono preamplifier is not a new product. Rather, it’s one that has stood the test of time, and for years, readers have implored me to review it. Usually, when I ask, “What’s so special about it?” all I get are an orgasmic look and groan. So last May, when I visited Viva Audio’s display at High End 2015, in Munich, I arranged with Viva’s Amedeo Schembri and Sergey Porotsky to have a Fono sent to me. They were happy to oblige.

The Fono is a two-box, all-tube phono preamplifier with built-in custom moving-coil step-up transformers. It is a single-ended, moving-coil-only design wired point to point, with RCA inputs and outputs, and an additional pair of RCA jacks for adding resistive loading to the transformer primary, if owners feel it necessary.

The Fono’s large, heavy, enclosures both measure 16" square, and are made of stylishly curved aluminum that can be painted in what Viva calls “a virtually unlimited array” of automotive lacquers. The signal box is 7.2" high and weighs 26.4 lbs; the power supply is an inch taller and weighs 33 lbs. Protruding from the top of each case are tubes: for the power supply, two 2A3 or 300B tubes; for the signal-handling box, pairs of dual-triode 12AX7s and single-triode 6C45Ps.

At \$15,900, the Viva Fono is by far the most expensive 12AX7-based MC phono preamp I’ve heard. It was also the best sounding—or, at least, the lushest, the best-controlled, the most extended, and the least bloomy

on the bottom end. It was also incredibly quiet, with enough gain (60dB) for MC cartridges of relatively low output.

I suspect that what earns orgasmic groans from the Fono’s fans is its spooky midrange transparency and generous overall sustain. The sense of *there was fully* there. If you wish to own but one Broadway original-cast recording, make it the new reissue of *West Side Story*, cut by Ryan K. Smith at Sterling Sound using the original three-track master tape (2 LPs, Analog Spark/Razor & Tie). Analog Spark, a vinyl-reissue label and the brainchild of Razor & Tie’s Mark Piro, is doing it right: These two discs are enclosed in a gatefold “Tip-on” jacket whose inner spread features rarely seen photos of the recording sessions.

The Columbia original, produced by Goddard Lieberson and released in mono in 1957 and in stereo in 1961, sounded *spectacular*. Engineer Roy Halee told me that Fred Plaut probably engineered it, at the famed 30th Street Studio. The stereo “action” was intended to reproduce in some ways the sensation of attending the live stage show, and the album’s presentation of space feels enormous in every dimension. Oh, and the lyrics and music, by Stephen Sondheim and Leonard Bernstein, are pretty good.

In terms of transient precision, transparency, and reproduction of space, the Fono’s rendering of this kind of orchestral recording—or of any kind of acoustic music—was among the best I’ve heard from any phono preamp



Stylishly curved: the Viva Fono (right) and its tubed power supply.

I’ve reviewed. The Fono didn’t at all sound grossly “tubey,” but had fully extended highs and well-extended and -controlled lows. If there was anything tubey about its sound, it was in its generosity of sustain. It just kept going and going. You could even say it glows . . . but not in an overblown way. The only thing negative I could say about the Fono is that when I turned up the volume too high, it could get somewhat glary. So I didn’t.

Image three-dimensionality and solidity were also notable. Through the Fono, the finger cymbals in “Maria” had the ring of reality, from the visceral initial clash through the glistening sustain and the long, graceful decay.

Another record that produced orgasmic groans from me when I listened to it through the Fono was *Cousins: Polkas, Waltzes & Other Entertainments for Cornet & Trombone*, for various combinations of cornets, trombones, and piano, including the young Gerard Schwarz on cornet (LP, Nonesuch H-71341), recorded in 1977 by the great Marc Aubort, and mastered by Bob Ludwig.

The Fono excelled with classical music and jazz, but I felt it lacked the necessary bottom-end grunt and

gravitas for electric bass; I found its overall ethereal sound better suited to acoustic music. If you listen mostly or exclusively to classical and/or jazz and can spend \$15,900 on a phono preamp, the Fono should be on your very short list. Having it here for over a month had me listening to classical and jazz long into many evenings.

Two Single-Ended Interconnects

ACROLINK 7N-DA2090 SPECIALE & FONO ACUSTICA VIRTUOSO

The smooth-sounding combination of Dr. Feickert Analogue Firebird turntable, Reed 3P tonearm with wooden armtube, Lyra Etna cartridge, and Viva Audio Fono phono preamp had me swapping out my reference TARA Labs Zero Evolution interconnect linking the phono preamp to my darTZeel NHB-18NS preamp, to hear what other links might offer. (And lest you think the Firebird's smooth character was the work of the Viva Fono, I also ran all of the arms I used with it through my reference Ypsilon MC-10L/VPS-100 combo and Pure Audio's solid-state Vinyl phono preamp.)

I had on hand what turned out to be two cables with diametrically opposed sounds: the AcroLink 7N-DA2090 Speciale (\$2375/1.5m pair, above right), and Fono Acustica's flagship model, the Virtuoso (\$20,384/1.5m pair, above left).

The 7N-DA2090 Speciale is made of 99.99999% pure multistrand copper in what AcroLink calls a "balanced twin core structure." There's not enough space here to go into AcroLink's impressive noise-reduction technology (including magnetic-alloy films developed by Nippon Telegraph and Telephone), but their specifying of this product's resistance (18milliohms/meter) and electrostatic capacitance (56pF/meter) is something *all* cable manufacturers should do.

The pricey Fono Acustica is not only hand-terminated but hand-built, of proprietary conductors drawn from Canadian-sourced solid-core silver/gold alloy, with conductors enclosed in silicon sleeves, air-spaced Teflon insulation, and a host of other features you can read about online. The look is Spanish Cowboy Baroque.

Those who deny, because they "know," that the material a conductor is made of can affect the sound, simply haven't listened. Substituting



the AcroLink 7N-DA2090 Speciale for the TARA Zero Evolution—which, at \$18,000/1m pair, costs a little less than the Fono Acustica—produced sharper but not unnaturally defined transients, shorter sustain and decay, and an overall well-detailed and more speedy sound. It generated notable rhythmic excitement that in some ways benefited the Viva Fono's long sustain. The AcroLink's sharply drawn top end worked well with the Fono, as did its somewhat punchier bottom.

Substituting the Fono Acustica Virtuoso for the AcroLink *completely* changed the sound, which now was far richer overall, with more graceful, almost cautious, romantic, but somehow still precise and well-detailed attacks, and long, long sustains that let the Viva Fono fully express itself. But because the Fono Acustica sounded warmer

and darker in the mids, it tamed the Viva Fono's glare at higher volumes, which also made it an ideal match for the Viva in the mids. However, this very pricey interconnect—it costs even more than the Viva Fono!—also somewhat muted the *very* top end, producing that romantic sound that some crave.

When I went back to my reference TARA Labs interconnect, which has solid-copper cores, the TARA produced an ideal balance of transient speed and detail, generous sustain, and high-frequency extension. Did I miss elements of the AcroLink's and Fono Acustica's sound? Yes—but you can't have everything! ■

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Viva products are available in the US from Earsnova in New York, NY, Pro-fundo in Round Rock, TX, and Blackbird Audio Gallery in San Diego, CA.

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LISTENING BY ART DUDLEY

THIS ISSUE: Art Dudley listens to the Magnetic Adapters from High Fidelity Cables.

Let's Stick Together

No one likes to be fooled, least of all those of us whose job it is to sort the real from the imagined: a tightrope walk, the audience for which reliably contains one or two rustics who delight in the occasional *splat*.

Such were my concerns in the days following last November's New York Audio Show, where I first encountered High Fidelity Cables—an exhibitor that generated considerable (figurative) buzz by promoting the use of magnets in an audio system's interconnects, speaker cables, and power cords. Indeed, by the end of the first day, more than one showgoer had asked me, “What did you think of the guy with the magnetic cables?”

The guy with the magnetic cables was Rick Schultz, a Canadian whose base of operations is now the Dallas suburb of McKinney, Texas. After hearing Schultz explain the reasoning behind his designs, and after listening to a High Fidelity Cables-wired system in the demonstration room next door—sponsored by Star Sound Technologies—I was sufficiently interested to request review samples of HFC's entry-level product: the Magnetic Adapter, intended to be used inline with the buyer's existing interconnect or digital signal cable.¹ Soon thereafter, I received from HFC a starter set (\$299) comprising two Magnetic Adapters and small quantities of contact cleaner and Stabilant 22 contact enhancer. (Like the wines I tend to order in restaurants, this set is the second-least-expensive thing on the menu; a single Magnetic Adapter for a digital signal cable can be had for \$189.) The implication seems to be that HFC's moderately expensive interconnects, speaker cables, and AC cords—the prices range into five figures—offer even more of the improvements in sound promised for the Magnetic Adapters.

The Beloved Question

At roughly the time Gustav Mahler was working on his Symphony 2 and the well-intended Grover Cleveland was wrapping up his first term in the White House, British physicist Sir William Crookes demonstrated the changes in trajectory exerted by magnets on streams of free electrons, in the form of what were then called “cathode rays.” (Sir William also believed in ghosts: another story for another day.) A century and a quarter later, I watched as Rick Schultz demonstrated, with the aid of an old-style cathode-ray tube, the very same effect.

Schultz proceeded to explain that standard audio cables are merely *electrically* conductive, while his products are



The red and the black: a pair of Magnetic Adapters.

magnetically conductive. I think we all have some understanding of electrical conductivity, on at least an elementary level: Atoms within a conductor have the right number of “free” valence electrons to enable the conveyance of an electric charge. As for magnetic conductivity, although the math Schultz talked about was over my head, I was given to understand that a key element of his concept is the use of magnetism to counter the ravages of *skin effect*, the phenomenon whereby AC conductivity is significantly lower at a wire's core than at its surface.²

Skin effect becomes more severe as AC frequency increases.

Skin effect, a byproduct of the electromagnetic waves generated by alternating current—the swimmer struggling to overcome the turbulences created by the act of swimming, if you will—becomes more severe as AC frequency increases.

Thus, it would seem that Schultz's concept of allowing “the magnetic fields [to] guide the electrons through the conductor,” as he put it to me, is nothing less than the use of magnetism to combat . . . well, *magnetism*. Viewed critically, it is an attempt to counteract a complex, naturally occurring, continually shifting, and presumably intricate pattern of flux lines. Such a task would, I believe, require more than just attaching a magnet to a piece of wire.

And it seems that Rick Schultz has, in fact, delivered more. The HFC Magnetic Adapter is a 3.5"-long metal cylinder just over 1/2" in diameter, with an RCA plug at one end and an RCA socket at the other. Each Adapter contains a total of 49 neodymium magnets, arranged in specific patterns according to their polarities. (Schultz says he uses an assortment of testers, including specially made compasses, to align the magnets during assembly.) Of those 49 magnets, four are tiny cylinders stacked inside the pin of the Adapter's specially designed RCA plug (I'll come back to this in a moment); the remainder are disc magnets of two different sizes. Electrical connections between the hot conductors of the socket and plug are made not with wires or metal bars but by the magnets themselves; the ground-to-ground connection appears to be made through the Adapter's metal housing, which proved to be conductive even through

¹ During the first week of December, Rick Schultz informed me that he will soon offer Magnetic Adapters for speaker cables.

² See the second page of “The Essex Echo 1995: Electrical Signal Propagation & Cable Theory” at <http://tinyurl.com/nkmbllhj>.

its exterior finish. Using a common multimeter, I measured a resistance of 2.1 ohms across the hot conductors of a Magnetic Adapter, while the ground-to-ground resistance between the two RCA connectors fluttered between 0.0 and 0.1 ohm. (The latter measurement is also what I see across the bog-standard RCA-socket-to-RCA-socket adapters in my parts bin.)

HFC says that all of their products are directional, and all are marked with arrows indicating proper orientation. Magnetic Adapters are offered with plugs and sockets arranged for input or output use. My review pair was an output pair—meaning that, for a preamplifier-to-power-amplifier connection, they should be plugged into the preamp. And so they were.

The Hateful Question

With my system fully warmed up, I listened to a few well-loved recordings, then installed the Magnetic Adapters and listened to them again. At first, making the physical connection between the Adapters and the output jacks of my Shindo Masseto preamp proved difficult—surprisingly so, given the unremarkable appearance

of HFC's RCA plug. A closer look revealed that the male contact of this plug is split rather than solid; not only do the segments of the pin flare outward, but the metal has been shaped to form a bulbous tip of larger diameter than the pin's shaft. Later, Rick Schultz explained that this PinLock plug is a proprietary design intended to enhance conductivity by eliminating the "micro-arc" associated with a mechanically poor connection.

I persevered, and with a little more effort the connection was made. I didn't bother with the included contact cleaner or contact enhancer, for three reasons: it seemed safe to assume that HFC would not send samples that required maintenance; because I plug and unplug my interconnects so frequently, I don't believe that they require such ministrations; and in assessing the Magnetic Adapters, I wanted to base my findings on only a single variable—the application of magnetism.

The first record I played with the Adapters in place was of the Ensemble de Solistes des Concerts Lamoureux performing Milhaud's *Les Quatre Saisons*, for two pianos and eight instru-

ments, under the composer's direction (LP, Philips 6504 111). Compared to my system's pre-HFC performance, the change was subtle but readily detectable. The sound of the entire ensemble gained in smoothness—indeed, *smooth* was the first word in my listening notes, written almost without thinking. But that smooth sound was also duller, less contrasty, and altogether less interesting. I had the unshakable sense that, compared to my system without the Magnetic Adapters, there was something between the music and me—which, I suppose, there was. (I didn't measure the Adapters' resistance until I had completed my listening tests.)

There were pluses. Dynamic peaks were peakier: In the portions where the ensemble's two pianists were both playing rather loudly, my system seemed marginally louder than it did without the Adapters. But removing them also removed from the sound a film of murk whose presence I had not at first detected. Without the HFC products, the violins again stood proud of the other instruments, and the oboe line became more audible and intelligible.

After hearing similar results with



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a few other LPs I changed course, removed the Adapters from the line-out jacks of my Masseto, and plugged them instead into the outputs of my Sony SCD-777ES SACD/CD player. This time, I based my comparisons on a number of tracks from the Beatles' *Anthology 3*, a 1996 collection of out-takes and alternate versions from the final third of the group's career (2 CDs, Apple CDP 8 34451 2). My responses to "Cry Baby Cry," with and without Magnetic Adapters, pretty well summed up my thoughts: After listening to the song twice through without magnetic conductivity, I plugged in the Adapters. Two seconds into the song, I realized that the tone of the strummed acoustic guitar had changed: Its midrange tones were now more prominent, resulting in a "quackier" sound. John Lennon's lead vocal sounded fine—the opening chorus and verse are just Lennon and his acoustic guitar—but then, from the moment the drums and electric bass enter, the song sounded tired and listless: The pace dragged, and the players sounded bored.

The differences were so clear that I wondered: perhaps, by the third time

I'd played the song, I was just sick of it? So I grabbed another album—the Nitty Gritty Dirt Band's *Will the Circle Be Unbroken* (CD, Capitol 5-35148-2)—and, with HFC's products still in the loop, played just one verse of "Lost Highway" before pausing, removing the Magnetic Adapters, and playing the song from the beginning. With the Adapters, the pace was laggy and lack-luster, and the reverb-drenched spoken intro sounded desultory and, again, tired; with the Adapters removed, this broadly paced tune was rhythmically more on track, and more purposeful: Les Thompson's mandolin accents on the downbeats now seemed to push the band in a straight rather than a straggly line.

That seemed a good enough place to pause.

Remember a Day

As I indicated in one of my posts from the New York Audio Show,³ meeting Rick Schultz and hearing such good sounds from the Star Sound Technologies system left me impressed and optimistic: I was anxious to try a High Fidelity Cable product in my system. I was surprised when that technology

pushed the sound of my system in the wrong direction.

Then I recalled a day, some seven or eight years ago, when an equipment supplier visited, bringing with him a moving-coil step-up transformer to try. As longtime readers of this column know, I love step-up transformers, and while I've heard some that sound mediocre when poorly matched to their surrounding gear, I have never heard one that I thought sounded bad per se. My mind was about as open to step-ups as my mind can be.

We began our listening with a borrowed sample of the Hommage T1, which had been in my system for a few months, and which had impressed me all the way to hell and back. The T1 was my favorite, and I made no secret of it. Sure enough, the T1-fueled system sounded great that day. But before moving on to a different trannie, I had to leave the house for a short while and collect my daughter at school. I returned home about 20 minutes later, and my visitor and I decided to spin one more record before making any changes.

³ See www.stereophile.com/content/new-york-audio-show-finis.

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That was an easy act to follow—and, indeed, with a new phono transformer installed and used in place of the Hommage T1, the system sounded much better. But it still didn't sound as wonderful as it had earlier in the day.

Then and there, I knew what had happened, just as I knew it was something I could never prove: Whether out of curiosity or competitive mischief (in the years since, I have been given numerous reasons to suspect the latter), my visitor had almost certainly used his multitester on the coils of the T1—and thus *magnetized* the cores. I knew it because I had once, out of ignorance, done the same thing to a different phono transformer, and had heard precisely the same results, which lasted for nearly a week. Indeed, the T1, too, began to sound better after a few days;

my feelings toward my visitor have taken considerably longer to improve.

This may be germane because the output jacks of my preamplifier are wired directly to a pair of internal output transformers. (This is one of the things that makes the Masseto so special: It's the least expensive Shindo preamplifier so equipped.) For that reason—and perhaps because there remain step-up transformers at my preamp's input stage, not to mention transformers in the output stages of all my amplifiers—I wonder if my system, and others like it, simply are the least apt candidates for magnetic conduction . . . ?

No one who has heard the sonic consequences could fail to agree: Magnetizing the coils of a signal-carrying transformer is to be avoided at all costs. Perhaps magnetizing other conductors in an audio system, done with precision, is a better idea—but how does

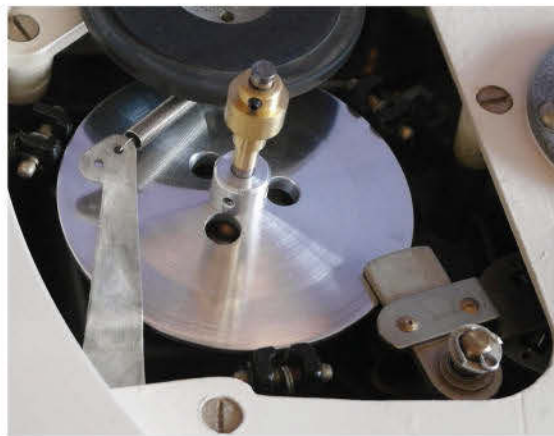
one get the magnetism to stop when it encounters a transformer? Take a detour around it and resume on the other side? I have no idea.

A video posted on the High Fidelity Cables website states that “your music system is one big magnet.” In the sense that an audio system crawls with electromagnetic energy, owing to a preponderance of AC currents, I suppose there's some truth in that; for the sense apparently intended—the same video also says that “magnets make music” and suggests that adding more magnets makes more music—I think the ground is a bit shakier. As with virtually everything else I've learned about domestic audio, there are few universal tweaks, just as there are few universal playback technologies: HFC's ideas and products may indeed have merit, despite their lack of suitability to my playback system; I look forward to hearing what others have to say.

WOODSONG AUDIO'S EDDY-CURRENT BRAKE DISC FOR THE GARRARD 301 AND 401

A while back, I began corresponding with a woodworker and phono enthusiast named Chris Harban, who builds some of the most head-turningly beautiful turntable plinths I've seen. Working from a factory space in Sandpoint, Idaho, and doing business under the name Woodsong Audio, Harban makes plinths primarily for the Linn LP12, Garrard 301/401, and Thorens TD 124, with other types available. He offers a big selection of hardwoods and veneers, and his LP12 plinths in particular are made to spec—by which I mean that Harban doesn't second-guess or attempt to “improve” on Linn's proven designs, and he assures the buyer a precise fit for mechanicals and electronics alike, to the thousandth of an inch.

Woodsong has also branched out (sorry) into the refurbishing of used Garrard 301 and 401 motor units; it was with those products in mind that Harban and I began, about a year and a half ago, to toss around the idea of my reviewing a complete Woodsong 301, and comparing it with the 301 that I acquired and refurbished for myself, and for which I made a publicity-hungry plinth of my own. Of course, Woodsong, like so many small manufacturing companies, must satisfy paying customers to stay alive; understandably, there has not yet been



I brake for vinyl: the Woodsong eddy-brake disc in situ.

The brake pivots in response to the speed adjustment knob.

enough time to complete a project for which no one will immediately pay (although Harban reports that he's getting close, and that the review sample will some day become reality). In the meantime, Harban decided to satisfy his own needs and those of DIYers by manufacturing something the Garrard 301/401 community has long needed: a modern, high-quality replacement for the motor unit's eddy-current brake disc.

The component in question is a two-part thing: an aluminum-alloy disc 0.08" thick and just over 3" in

diameter, to which a 0.5" bronze hub/collet is press-fitted. Three very small grub screws in the collet secure this disc to the motor shaft, where it rides just above the body of the motor and just below its pulley. Off to one side of the motor is

an odd-looking mechanism about 1½" long, with an oblong magnet—again with the magnets!—held between two flat strips made of a cadmium alloy. That's the brake itself, and it pivots in response to the chassis-mounted speed-adjustment knob, describing an arc of perhaps 50°; when the adjustment knob is set for the highest speed, the brake is completely clear of the disc; but as the knob is turned toward the slow end of its range, the brake rotates toward the center of the disc, and the “calipers” formed by those two metal strips enclose an ever greater area of the disc—not making contact, but using magnetically induced eddy currents to impede and slow the disc, and thus the motor and, ultimately, the platter itself.

It sounds so simple that one might



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wonder, *Why should you ever need to replace such a thing?* First of all, although the brake and the disc aren't supposed to make contact, they sometimes do, especially if the disc's height on the motor spindle is misadjusted—I don't know precisely how much clearance there is between those cadmium-alloy strips and the upper and lower surfaces of the brake disc, but it ain't much—and the edges of the soft-alloy disc get banged up, making clearance (and balance) more difficult to attain. Second, these discs weren't always terribly well made to begin with, a realization that brings with it the possibility of better performance from better machining. Finally, although the original disc is made with three round openings near its hub, intended as access holes for lubricating the armature bushing just underneath, they're inadequate in ways that are apparent only to those who've attempted such a thing.

Woodsong Audio's hopefully better eddy-brake disc (\$280) is made of an aluminum alloy said to be identical in conductivity to the original, but with a hub made not of bronze but of 6061-T6 aluminum, chosen for the strength and durability necessary in a part with *four* grub screws (*vs* the original's three). The seam between disc and hub is so difficult to detect that, at first glance, I thought the Woodsong disc was machined, in its entirety, from a single hunk of the same metal. Chris Harban corrected that mistake, but declined to describe in detail the actual manufacturing process; suffice it to say he promotes his disc as exhibiting far better balance than the original, the hub of which was installed in the same manner as a rivet (*ie*, with less than the highest degree of precision).

A nice added touch: The Woodsong disc also incorporates a trio of openings intended to ease motor lubrication, but these are machined at an angle relative to the armature, thus allowing the user to get the tip of his or her dropper or applicator that much closer to the motor bushing.

The Woodsong disc is protected during shipping by thin, flexible vinyl sheets, top and bottom; these are peeled away during installation—which, thanks to the excellent instructions, was straightforward and without tragedy. (Notwithstanding the new disc's nicely angled lubrication holes, I took advantage of the opportunity for an even easier lube job after I'd removed the old disc but had not yet

installed the new.) Your \$280 also buys the necessary Allen wrench, shims for adjusting disc height, a tiny vial of motor lubricant, and extremely nice, professional-looking packaging. In all, the Woodsong eddy-brake disc is clearly the product of someone whose level of attention to detail borders on the obsessive: an excellent characteristic in this line of work.

Before I rang out the old and rang in the new, I used my Dr. Feickert Analogue Adjust+ 7" test record and my iPhone copy of Feickert's PlatterSpeed software to measure my Garrard 301's speed stability, and the results were as unpretty as Claire Danes coming off a weeklong crying jag: Although wow wasn't bad—0.12% using the 2-Sigma method, 0.11% using the dynamic method—the maximum deviation in raw frequency was $-19.1/+9.1\text{Hz}$. Ouch!

With the Woodsong brake disc, wow was almost the same, but speed fluctuations decreased slightly, to $-17.1/+9.6\text{Hz}$. Well!

Obviously, something else is rotten in Swindon, and I think I know what it is: Lately I've noticed a bit of slop between the upper and lower bearing shafts of my 301's idler wheel and the bronze bushings in which they fit—and I suspect the bushings more than the shafts, partly out of pessimism, as the latter will be less easily replaced than the former. That said, Chris Harban has announced that he is working on a precision-machined replacement for the 301's idler-wheel carrier, to be fitted with bearings of reportedly greater precision. My experience with the very beautiful and recommendable Woodsong Audio eddy-brake disc encourages optimism, even as I suspect I'm in for a wait. ■

Art Dudley (art.dudley@sorc.com) stays snug and warm in his listening room in wintery upstate New York.

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AUDIO STREAMS

BY MICHAEL LAVORNA

THIS ISSUE: Melco's N1A music server is taken for a test drive.

A Music Server for Music Collectors

For a growing number of people, music is free, or virtually so. If you don't want to deal with ads, \$9.99 a month buys you unlimited, ad-free access to millions of tracks. At least at present, streaming from services like Spotify, YouTube, and Pandora is where music consumption is headed—and it's really all that most people want.

You and I are different. We collect music, and care about the quality of our listening experience. We care because listening to music is something we do while not doing anything else. This makes us: a) an increasingly rare species, b) not content with lossy streaming, c) on the road to complexity, and d) simultaneously richer and poorer.

For collectors, digital music means discs or files. Removing the spinning disc from digital playback opens us up to an endless stream of music—a dream come true. While the fulfillment of this dream entails a certain amount of added complexity compared to popping a CD into a player, a music server can offer a nice, relatively simple, one-stop shop.

Of course, any computer can function as a music server, even if computers weren't designed for that purpose. The reason to consider a purpose-built device should be obvious—it's designed to do one thing really well: serve your music.

Melco N1A High Resolution Digital Music Library (\$1999)

In 1975, in Japan, Makoto Maki founded the Maki Engineering Laboratory Company (Melco), "to design and manufacture the finest audio components of the time." Melco's flagship product back in the day was their 3560 Turntable System, which was similar in approach to another 1970s 'table, the original Platine Verdier. Then, at the beginning of the 1980s, Maki put his audio company on hold in order to build Buffalo Inc., which has since become Japan's largest manufacturer of computer peripherals.

Now Melco has been resurrected as a maker of networked audio components, combining Maki's audiophile roots with the high-tech manufacturing chops of Melco Holdings. I love stories of resurrection inspired by passion.

Melco currently offers two products: the N1A and the N1Z, each of which is called a High Resolution Digital Music Library. These servers were designed for music *collectors*—they won't play from Internet streaming services. One difference between the two models is that the N1A uses hard-disk drives, while the N1Z uses solid-state drives. The subject of this column is the N1A; owing to what Melco describes as licensing issues, the N1Z is not yet available in the US.

Simple Version (Sorta)

The Melco N1A has 4TB of internal storage. If you currently store your music on a USB drive, all you need do is plug it into the N1A, then answer "OK" when it asks if you want to copy the drive's contents to the Melco. You can also drag and drop music into the N1A using a computer: When the N1A is connected to your network (router, switch, or hub) with an Ethernet cable, it'll show up on your network as a shared storage device.

If you want to use a USB DAC to convert the Melco's digital output to analog, just use a USB link to connect your DAC to any of the three USB ports on the N1A's rear panel. If you want to use a network player instead, and have already connected your N1A and player to your network, you're good to go. Melco recommends using the PlugPlayer remote app for iOS and Android devices to operate the N1A, so you'll also want to have an iOS or Android device



Sturdy and workmanlike: Melco's N1A music server.

We care because listening is something we do while not doing anything else.

to use as a remote.

Once you've connected everything, loaded PlugPlayer, moved your music into the N1A, and used the front-panel controls to tell the N1A where to send your music, you're ready to play. See? Simple.

Sorta.

Less Simple Version

Inside the Melco N1A are two 2TB, low-noise hard-disk drives made by Seagate, configured and delivered as a single drive, which is how I like it. You can also opt to configure these drives as a RAID 0 or RAID 1 array (RAID=redundant array of independent disks), but because a RAID array provides fault tolerance only in the event of disk failure, I recommend sticking with the entire 4TB for your music, and getting an external USB drive for true backup.

The N1A's outputs all reside around back and include three ways for its internal music library to be output in digital form: by connecting one of the rear-mounted USB ports to a USB DAC, by connecting the Ethernet port marked

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- Sam Tellig, Stereophile Class A Recommended Component, Sept. 2014

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- HiFi Choice, Five Star Award Winner, April 2013

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- What Hi-Fi, October 2013

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- Hi-Fi Choice, Issue 370, 2013



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LAN to your network (router, switch, or hub), or by connecting the Ethernet port marked *Player* directly to your network player. The preferred method obviously depends on whether or not you want to use a USB DAC or a network player. If you opt for the latter, you then need to decide if you want your network player to reside on your network, allowing you to use your favorite Universal Plug and Play (UPnP) remote app to control playback. (Think of UPnP as the language these devices

2.0 port for playing music from a connected USB storage device; an OLED display that shows system and playback data; and four buttons (Back, Enter, Scroll Down, Scroll Up) for accessing the N1A's menu commands, as well as rudimentary playback from internal storage when using a USB DAC. Everything that lights up on the N1A, including the display and LEDs, can be dimmed or shut off.

The N1A runs on Twonky 7 server software, and supports all popular

purchased after that initial transfer. For geographically fortunate* customers, Melco's Downloader app allows you to download music you've purchased from highresaudio.com and ototoy.jp directly to the N1A.

The system for this review included my newly acquired Ayre Acoustics AX-5 Twenty integrated amplifier (yeah!) driving a loaner pair of preproduction DeVore Fidelity X speakers. I have music libraries stored on a Synology 412+ NAS and a QNAP HS-210 NAS. DACs and other details divulged below.

The Easy Part

The Melco N1A Buffaloes my combination of MacBook Pro and Synology NAS. It destroyed them, embarrassed them, gave them a good schooling. Music sounded obviously—frighteningly—more refined, more spacious, and more natural through the N1A. End of story. I can't imagine anyone in this universe who does nothing else while listening to music making the same comparison and *not* hearing this difference.

I could torture myself—and you, and everyone else—trying to logically suss out the reasons for this great improvement in sound. Is it X? Or Y? Or XYZ and ABC? To my way of thinking, unless you plan on building your own N1A system, why fret? The proof is in the listening. So I listened to the Melco N1A as a server using a number of DACs, including my reference Auralic Vega (\$3499) and the lovely Metrum Acoustics Musette (\$1399). The differences remained clear as stated above, regardless of which was converting my bits.

I also used the N1A as a NAS feeding a T+A MP 2000 R network player (\$7500), which allowed me to do a few things. I could easily switch from serving up my music via the Melco, a review-sample Antipodes DS server (\$2700 with 1TB HDD), and my NAS (Synology or QNAP). In order of sonic preference, the Melco nudged out the Antipodes DS—quite a feat, seeing as the Antipodes is no slouch in terms of sound. Through the Melco, music sounded that much more crisp, refined, and natural. While the Antipodes does things the Melco doesn't (it has an onboard DAC, for one), the Melco



USB ports on the rear panel are labeled USB3.0, Expansion, and Backup.

Melco has been resurrected as a maker of networked audio components.

use to talk to one another.) If you choose to connect the N1A directly to your network player, that player must offer a hardware-based means of controlling playback since, it's not accessible from a remote app.

To clarify: In Player mode, the N1A assigns an IP address to your network player—you can think of that relationship as a closed mini-network. It's also worth noting that, when the N1A is in Player mode, you can't connect to it from your computer to copy files to the Melco's internal storage because it resides on its own closed mini-network. Melco recommends using the N1A's USB input for that purpose. As I understand it, the benefit of Player mode is to isolate the N1A from network traffic and noise.

Bits and Bolts

In addition to connecting to a USB DAC, the three rear-panel USB ports offer additional functionality. The port labeled *USB 3.0* is for importing music from external USB storage; *Expansion* is for adding additional USB storage should the N1A's own 4TB not be enough; and *Backup* is for backing up all your music and configuration data to an external USB storage device. Also on the rear panel is an IEC inlet for the included power cord.

On the front panel, from left to right, are: the on/off switch (the boot process takes about 20 seconds); a USB

file formats in PCM resolutions up to 32-bit/384kHz, and DSD up to 5.6MHz. (Melco says that DSD playback will be extended to 11.2MHz in the near future.) If your DAC doesn't do DSD, the N1A can convert DSD to PCM via USB, though this option is unavailable via Ethernet streaming. If you want to play DSD files via Ethernet, you need to install the Miniserver software on the N1A. And if you like to dig into the nitty-gritty, a 57-page owner's manual is available from Melco's website.

Melco's efforts to keep noise out of the data path include a separate, isolated power supply for the light-piped LAN ports, which are entirely electrically isolated by ALT Series Pulse Transformers from TDK. Using an NDK ultra-low-jitter clock, the N1A also reclocks all data before sending it on its way. The N1A's rigid metal case measures 17.2" wide by 2.8" high by 13.9" deep and weighs 15.4 lbs. It sits on wooden footers, and its front panel is a nice chunk of aluminum in black or silver. I find the overall look and feel sturdy and workmanlike—a no-nonsense, bottom-of-the-rack look.

Setting up the N1A and getting music into it was a breeze. I keep a backup of my NAS-based music library on a USB drive, so I simply connected that to the Melco and said "OK." Using my iMac, I also dragged and dropped to the N1A new music

1 Highresaudio.com offers an English version of the site; most downloads are available world-wide, but restrictions apply in some locations. Ototoy.jp does not offer an English version.



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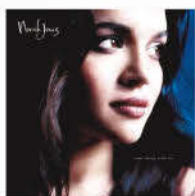
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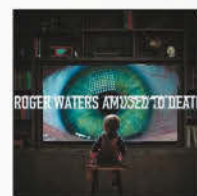
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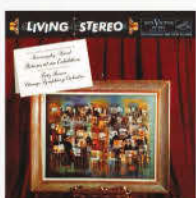
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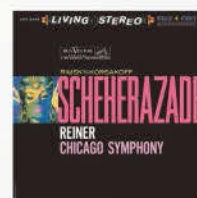
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The Melco pretty much creamed both of my NASes, too, though not as much as it had my MacBook-NAS. Music opened up more, sang out more truly, let me get into it more deeply. I was sighing to solo violin—I really got into Arthur Grumiaux's recording of J.S. Bach's Sonatas and Partitas for Solo Violin (2 CDs, Philips 438 736)—dancing with Tom Waits and the Birthday Party, grooving to the US Girls' *Half Free* (CD, 4AD 3520), and getting all down and funky with Fille Qui Mousse. Jazz was jazzier—Cecil McBee and Jacques Coursil sounded more solid, weighty, and lifelike. The Melco N1A stripped away layers of digital's nastier stuff, including harshness, flatness, and unnaturalness. Niceness!

Using the Melco in Player mode with the T+A doing player duties delivered the most appealing sound of all. But—and it's a *big* but—I can't live without a real graphic user interface. Turning a knob, or tapping Next on a remote, is no way to browse a 1000-plus-album library for this music lover; I could see that kind of behavior leading to some new twitch, like a baseball player waiting for the pitch.

Simply More Musical

I've reviewed a number of music servers, including the Antipodes DS and DX (\$6500), the Aurender S10 (\$6990) and X100L (\$3499), the SOtM sMS-1000SQ (\$3000), Digibit's Aria (\$6995), and more. It has been my experience that the differences between

a stock computer and any of these dedicated servers are varying degrees of improvement of the same aspects of sound: noise floor, dynamics, definition and dimensionality of sound image, microdetail, and, overall, naturalness and degree of engagement (mine).

The Melco N1A is the least expensive server of this bunch, yet I find its sound quality on a par with more expensive models, and in the ballpark with the best costing up to \$6000. If you're looking for a server that sounds better than any stock computer can and you want to keep things simple, think Melco. ■

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MUSIC IN THE ROUND

BY KALMAN RUBINSON

THIS ISSUE: Cleaned-up power, a networked multichannel DAC, and a multichannel class-D amplifier.

Merging Technologies ahead

With the atomization of the playback of digital files into storage, servers, streamers, format converters, and DACs, I find that I've accumulated many miniature power supplies: small pods and wall warts. Most of these are generic switching devices made by companies other than the manufacturers of the components they power, and even those not



designed for audio systems are, of necessity, at least adequate for the task. Because many of these supplies are indistinguishable from each other, I've taken to labeling them with sticky notes to remind me which goes with which component. Nonetheless, I'm concerned that they're no more than the commodity power modules available for a few bucks each on eBay. Whenever I think of the four or five of them clustered behind my equipment rack, I begin to suspect them of plotting revolt against the fancy gear they serve.

So I was immediately attracted by a press release from iFi Audio about their iPower power supplies for audio components. First, iFi claims that they produce very little noise. Second, they're compact wall warts—*ie*, each is contained in an enlarged plug housing, which eliminates the needs for a separate power cord and a place to hide the wart. Third, they're not pricey for an audiophile tweak: just \$49 apiece. iFi promised a range of warts, with outputs of 5, 9, 12, and 15V, each with a different current capability. I ordered the 5V and 12V models. Months passed before they arrived, but at last I can tell you about them.

Each iFi iPower supply is a small module with an AC power connector on one end and, on the other, a captive DC cable 2m long. The AC end accepts any of four AC plugs (supplied), so that the iPower can be used almost anywhere 100–240VAC is available. The DC cable is terminated in a 5.5 by 2.1mm DC connector; but again, iFi supplies adapters for an addition three sizes—3.5 by 1.35mm, 4.0 by 1.7mm, and 5.5 by 2.5mm—along with a polarity inverter for devices requiring a center-negative supply.

The iPowers are not linear supplies but, like the cheapies, switched-mode devices. iFi claims for them an average audioband noise floor of less than 1 μ V, as the result of active noise cancellation and a 12-element noise-suppression circuit. That claim, which iFi suggests is supported by their in-house test results, is lower than that for iFi's previous AC/DC adapters, and even lower than is claimed for most audiophile linear power supplies. Judging from the range

of available iPower models, it appears that all are basically 13W switch-mode power supply (SMPS) converters, with the selected output voltage defining the current output.

I used the 5V iPower with miniDSP's U-DAC8 DAC and, using the 5.5 by 2.5mm adapter, the 12V mod-

el with the exaSound e28. iFi rates the 5V iPower at 2.1A, though my sample was labeled "2.5A"; it's slightly heavier and about a third larger than miniDSP's stock supply, which is rated at 2.0A. The 12V iPower is rated at 1.1A, which I had thought *should* be sufficient for the exaSound, even though the e28's stock supply has greater output, and is larger and heavier.

In the case of the miniDSP DAC, the iPower fulfilled iFi's promise. When I switched over from the stock supply, the DAC didn't seem quieter when there was no audio signal, but that's not the real test. Recordings with open, ambient soundstages sounded cleaner, and both instrumental and vocal music was more distinct. This was no major change that struck me every time I listened, but it did make all of my listening much more relaxing—perhaps because, subliminally, it required less effort to attend to individual sounds, particularly those far back on the soundstage. That the stock U-DAC8 is capable of better sound when supported by better ancillaries was revealed by the iFi iPower, as well as by UpTone Audio's USB Regen accessory.¹ Would replacing the Regen's supply with a 9V iPower improve the sound even more? I plan to answer that question ASAP.

With the exaSound e28 DAC, the results were a bit different. The 12V iPower was at a power disadvantage here compared with the e28's stock switching supply (which is capable of providing greater current) and even more with my home-brew battery supply (ditto). exaSound's George Klissarov has maintained that the e28's sound is mostly independent of changes in power supplies, and what I've heard supports him. The insertion of the iPower made little difference compared to either the stock supply or my battery arrangement, but it was smaller and less cumbersome than

**Recordings
with open,
ambient
soundstages
sounded
cleaner.**

¹ See www.stereophile.com/content/uptone-audio-usb-regen.

the former, and cheaper and simpler than the latter. That said, it appears that the 12V iPower actually *wasn't* enough for the e28: Although the sound was fine, the iFi failed after a few weeks. In my judgment, that is no blot on the iPower, but the result of my using it

inappropriately. My bad.

Bottom line: iFi Audio's iPower supplies are options that should appeal to anyone who suspects that a stock wall wart is less than optimal—as long as one is aware of the current required. The models I tried helped clean up the

tangle of cables and supplies behind my rack, and performed well when used judiciously. Where the iPower's low noise could help, it did; where it didn't, there was reduced clutter with no harm to the sound. I intend to keep a suite of them on hand.

MERGING TECHNOLOGIES NADAC MULTICHANNEL-8 DAC

For some years now, the Swiss company Merging Technologies has been at the fore of high-resolution technologies for recording studios. Their digital-audio workstation (DAW) software, such as the Pyramix Virtual Studio and Ovation Media Sequencer, are capable of up to DSD256 and DXD, and have been adopted by cutting-edge recordists and studios worldwide. The backbone of the Pyramix and Ovation packages is their adoption of Ravenna IP Audio technology, an Ethernet-based subset of the AES67 Audio over Internet Protocol (AoIP), which permits the precisely timed, error-free transfer of audio data among multiple devices, regardless of the number of participating devices. Although this is essential to large studio operations, it's

also desirable for home networks with multiple zones, as it can accommodate access to all resources from multiple zones. With Ravenna as the native connection technology, runs of Cat5e and Cat6 cable can be as long as 100 meters.

More recently, Merging Technologies introduced the Horus and the Hapi, two Ravenna-powered *networked audio interfaces*—hardware amenable to a number of chores, including D/A and A/D conversion—aimed at professional users. And in October 2015, at the Rocky Mountain Audio Fest, Merging Technologies introduced a pair of Ravenna-compatible products designed for the consumer market: the Merging+NADAC Stereo (\$10,500) and Merging+NADAC Multichannel-8 (\$11,500) DACs. As NADAC stands for Network Attached Digital

to Analogue Converter, these products should be judged not only for their performance as DACs but also for their networking capabilities.

At 17" wide by 3.7" high by 17" deep and weighing 24.2 lbs, the NADAC Multichannel-8 is one of the largest, heaviest DACs I have ever used. Unpacking it recalled my first sight of Theta Digital's awesome Generation VIII DAC, which I reviewed for the February 2004 issue.² But while the NADAC is more expensive (though not in 2004 dollars), it's also more graceful and intelligent—and, most important, it has more than two channels!

It may seem strange that the difference in price between the two- and eight-channel NADACs is so small,

2 See www.stereophile.com/digitalprocessors/204theta/index.html.

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Eric Boulanger

'The Bakery' - Mastering Engineer
Imagine Dragons, Neil Young, Colby Caillat, One Republic



"My Hafler PH60 phono preamp kicks ass! I've never heard my turntable sound that good. Actually, I didn't think it was possible."

Chuck Ainlay

Grammy winning Engineer - Producer
Mark Knopfler, Taylor Swift, Band Perry, Eric Clapton



but other than the latter's six additional output amplifiers and six more pairs of analog output jacks, the two models are almost identical. Both use an ESS9008S Sabre Reference Audio DAC chip with eight DACs, but the Stereo has four D/A outputs per channel, summed to provide better linearity, greater dynamic range, and a lower noise floor. (The Multichannel-8 can be switched to work in precisely the same manner, as Stereo DAC.) In both NADACs, the headphone output has its own converter IC.

The Multichannel-8's Ethernet interface (gigabit Ethernet only) is used for the playback of computer-based files through a Ravenna ASIO driver at any resolution up to 384kHz, DXD, and DSD256, as well as through up to eight channels. Incoming data are placed in a large memory buffer and

From the front, the NADAC Multichannel-8 looks like the NADAC Stereo...

I found the NADAC Multichannel-8 flawless.

clocked by a precision clock. Along with Ravenna's IEEE1588 Precision Time Protocol (PTP), this is intended to eliminate the jitter problems associated with other interfaces. The Multichannel-8 also handles AES/EBU and S/PDIF digital inputs up to 192kHz, and will accept DSD over PCM (DoP).

The case is a low-slung square just under 4" high, with gracefully rounded vertical corners, and is anodized in a satin silver tone. On the left of the front panel, an illuminated MT logo serves as an On/Mute/Off switch and indicator. To the right is engraved "MERGING-NADAC," and past that is a small but eminently communicative digital display. Then comes a large

knob that serves as the control for both volume and configuration. At far right are two headphone jacks, one each for 3.5mm and 1/4" plugs.

At the center of the NADAC's rear panel is a row of eight balanced analog outputs (three-pin male XLR); below them is a row of eight corresponding unbalanced outputs (RCA). These are merely labeled 1 through 8, not with specific channel names. To their left are clustered input connectors for: Ethernet Ravenna/AES67 (Neutrik EtherCon RJ45 jack), AES/EBU (three-pin female XLR), S/PDIF (TosLink), coaxial (RCA, 44.1–192kHz PCM), and Word Clock (BNC). To the right of the rows of analog outputs are an IEC power inlet, a DC power inlet, and a master power switch.

Physical hookup was easy. I connected the provided Ethernet cable between my gigabit network switch and the Multichannel-8, and the analog outputs to my Audio Research MP1 preamp with Kubala-Sosna Anticipation RCA and XLR interconnects. I installed the MT's ASIO driver on my Baetis XR2 server, and JRiver Media Center recognized the NADAC Multichannel-8 as an output zone. Un-

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fortunately, this didn't work. Merging Technologies' Dominique Brulhart informed me that I needed either to add to my network a *managed switch*, or to make a direct connection to my server. I chose the latter, and that worked well enough for the ASIO driver panel to see the Multichannel-8, and for the Multichannel 8's display to tell me that it had recognized the server output.³

Still no love from the Multichannel-8: It displayed the source name in red, which meant that that source was not connected. Again I contacted Brulhart, who told me of a so-far undocumented NADAC quirk: The only way to make the initial handshake between the Multichannel-8 and the server is to play a file of the precise format (DSD64) displayed, by factory default, on its front panel. (Brulhart said that this glitch—which, I suspect, remained undocumented because MT had expected to resolve it before the NADACs' launch—will soon be corrected.) Indeed, when I played a file of the right format, the handshake succeeded, and everything played brilliantly.

And I mean *everything*. From 16/44.1 to DXD to DSD256, in mono, stereo, or multichannel, the NADAC Multichannel-8 operated flawlessly. Its buffering inserted one to two seconds of delay in addition to JRiver's latency, but I heard nary a hesitation after the sound began. And even admitting to a positive expectation bias, I was impressed with the sound. A very familiar 24/96 recording, Willie Nelson's *Night and Day* (DVD-A, Surrounding-By SBE-1001-9; out of print), was presented with a smoothly continuous ambience linking and integrating the instruments, which were distributed among all five loudspeakers surrounding me. The latest from Manfred Honeck and the Pittsburgh Symphony Orchestra, Beethoven's Symphonies 5 and 7 (SACD/CD, Reference Fresh! FR-718), are dashing performances that conjure reference to Carlos Kleiber's ground-breaking renditions of these works with the Vienna Philharmonic (SACD/CD, Deutsche Grammophon 471 630-2). Via the Multichannel-8, that continuous spatial envelopment spread the PSO widely across the front stage, their sound entirely incorporated into the hall's ambience. Brass sections were almost explosively exuberant in both symphonies, yet remained musically integrated with the rest of the performance, and the dynamic range was



staggering. Then, listening to Kleiber's classic readings, I was equally impressed with the Multichannel-8's reproduction—the often edgy sound of these recordings from the mid-1970s was nearly gone, without any loss of clarity or dynamics. Listening sessions with these masterpieces through the NADAC at near-concert levels have been some of my most thrilling listening experiences.

I have some unreleased files that demonstrated that the NADAC Multichannel-8 is on top of some formats still not widely available. Tom Caulfield, a Grammy-winning recording engineer who has worked for Channel Classics and other labels, recently sent me a multichannel DSD256 file from a session with Color Field, a group comprising musicians of the Chicago Lyric Opera and the Chicago Symphony, for a recording of James Matheson's String Quartet, to be released this year on Yarlung Records. The opening notes were startling—I had the disturbing but exhilarating feeling that music was actually being made in my room, not merely reproduced. The sound was no more “multichannel” than it was “stereo”—the four players seemed almost within reach, and my room seemed to expand around me. Caulfield had included a few photos of the session, held at the Segerstrom Center, in Costa Mesa, California. When I looked at them—by George, that's exactly what I'd heard. Not only was I completely transfixed: I kept thinking, *If others could only hear this, hi-rez multichannel music would take off.*

I did also hear and appreciate some great and transparent two-channel sound with the Multichannel-8 in stereo mode, both from my Bowers & Wilkins 800 Diamond speakers as well through a pair of Bowers & Wilkins P5 headphones. I was also able to compare the NADAC directly with the exaSound e28 by setting JRiver to link the two DACs' outputs and switching my preamp between them. That was maddening—in quick A/B comparisons, they were indistinguishable. However, after I'd listened to one DAC for half an hour or so, a switch to the other could reveal some very tiny differences. Consistently, the e28 had a

...but not from the rear.

bit more bass and a slightly more forward sound. The NADAC's bass was excellent but less emphatic, and

the front of its soundstage was barely more distant. Those minuscule differences might aid those who can afford either in choosing between them, but they didn't help me.⁴

Still, I found the NADAC Multichannel-8 flawless. It provided some of the best sound I have ever heard in my home. With Merging Technologies' Ravenna-based network linkage, multiple NADACs can operate independently in different zones without requiring additional wiring or less-reliable wireless connections. I can't see any reason why one would *not* choose the NADAC Multichannel-8 for a modern multichannel or two-channel system.

THETA DIGITAL DREADNAUGHT D MULTICHANNEL POWER AMPLIFIER

For years now, class-D amplifiers have been encroaching on the mainstream of high-end audio. The first onslaught were based on the TriPath technology—it was pretty good, but burdened with a dim, opaque treble. That was largely erased by the second wave of class-D amplification, based on Bang & Olufsen's ICEpower technology, but still, the gap between those amps and the very best analog power amps was audible to most of us. Theta Digital showed the two-channel Dreadnaught D class-D amplifier (\$6149.95) at the 2015 Consumer Electronics Show, but I wasn't greatly interested in it—until I experienced a revelatory demonstration of Bruno Putzeys' Mola Mola

3 Because I used a direct connection to my streamer, my home network and iPad didn't see the NADAC Multichannel-8. To sample the NADAC's iOS app, I ran a 40' AudioQuest Ethernet cable from the Multichannel-8 to my main router, in the next room. The app duplicates the front-panel controls. Some users might find that convenient, especially if the NADAC isn't in the listening room—but aside from the volume control, I found the NADAC to be a set-and-forget device: I didn't need a remote control.

4 exaSound has just released their PlayPoint Network Audio Player, which will endow their DACs, including the e28, with network streaming abilities. The PlayPoint's feature set differs from the NADAC's, and it doesn't use AES67 AoIP. I'll report on it in my May column.



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power amp, based on his Hypex NCore technology. Shortly thereafter, I enjoyed reading Larry Greenhill's glowing review of Theta's Prometheus monoblock (\$12,000/pair), which uses the NCore module, as well as John Atkinson's bench tests of it.⁵ I also noted the appearance of a number of other amps based on class-D, such as NAD's Masters Series M22, reviewed elsewhere in this issue. I guess this is the third wave.

The Dreadnaught's D designation no doubt indicates class-D, but it's also the fourth model of the Dreadnaught series. Like its predecessors, it's a configurable design with a fixed power supply and one or more individual amplifier modules. In fact, the Dreadnaught D has *two* independent power supplies, each requiring its own power cord, and each supporting two of its four amp-module slots. Each supply consists of a 1180kVA toroidal transformer, 40,000µF of power-supply reservoir capacitance per slot, and two 30A rectifiers per slot.⁶ Any of three module options can be chosen, each based on the same NC1200 Hypex boards used in the Prometheus: mono 225W, stereo 225Wpc, or mono (bridged) 500W operation. Up to eight channels of 225W each are possible. After I had extended discussions with Theta, they recommended a 225Wx3 configuration for me, but sent what was available for review purposes: a 225Wx5 unit (\$8699.95).

My first impression of the Dreadnaught D was of a traditionally big and heavy power amp: It measures 17.5" wide by 7.9" high by 19.6" deep, and weighs 98.6 lbs "fully loaded." Hey, wasn't class-D supposed to give us more efficient designs that were *smaller* and *lighter*? But Theta's philosophy is that switched-mode power supplies, even Hypex's, are incompatible with efficiency or instantaneous power. To quote Jeff Hipps of ATI (Theta's parent company):



Dreadnaught class: inside Theta Digital's multichannel amp.

"Switch mode supplies are typically fully regulated which limits headroom, are less reliable (more parts), must be filtered to remove the switching noise and have issues we call 'power over time'—where the power supply cannot supply full current if it is demanded for more than a few seconds."

On the rear panel, the butt end of each amp module sports selectable balanced (XLR) and single-ended (RCA) inputs, and a pair of substantial multi-way speaker terminals. On the impressively massive front panel is an LED to indicate protection mode (it never lit up), and a three-color LED to indicate status (Standby/Warming Up/On). I used the XLR inputs, and connected my three front Bowers & Wilkins 800 Diamond speakers to three of the five amp modules. I then plugged each of the two power supplies into the wall, turned on each one using its separate switch on the rear, then pressed the front-panel power button. After a few seconds of warmup, this button gleamed blue and the sound bloomed.

Y'know, some folks in this hobby believe that all amps, when used ap-

propriately, sound the same. I find that impossible to accept. Every amplifier I have on hand is a really good amp that, on its own, is more than capable of providing more-than-satisfying sound. Yet, in direct comparisons, each reveals a character that subtly distinguishes it from the others. When I listen to music, is one of these amps right and all the others wrong? If I didn't make the recording and/or wasn't present at the performance, how can I know?

What I can say is that Theta Digital's Dreadnaught D not only sounded good, it sounded *right*. I could—and in my next column, I will—pick away at the things that distinguish it from other amps. But from the moment I turned it on, I've been smiling. The Dreadnaught D is really quiet and very dynamic, and sounds consistent at any output level. And there's nothing about its sound that says "digital"—even though all my sources are.

I'll have more to say about the Dreadnaught D after we've lived together for a couple more months. But for now, "Louie, I think this is the beginning of a beautiful friendship." ■

Kalman Rubinson (STLetters@sorc.com) gets the best from his multichannel music in both his Manhattan apartment and his weekend retreat in New England.

5 See the March 2015 issue: www.stereophile.com/content/theta-digital-prometheus-monoblock-power-amplifier.

6 These specifications aren't too different from those of the Prometheus's potent power supply: 1440kVA toroid, 20,000µF capacitance, and two 30A rectifiers.

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BOOK BY DAVID LANDER REVIEW

THIS ISSUE: Peter Guralnick's new Sam Phillips biography.

SAM PHILLIPS: THE MAN WHO INVENTED ROCK'N'ROLL

by Peter Guralnick. Little, Brown and Company, 2015. 763 pp. Hardcover, \$32.

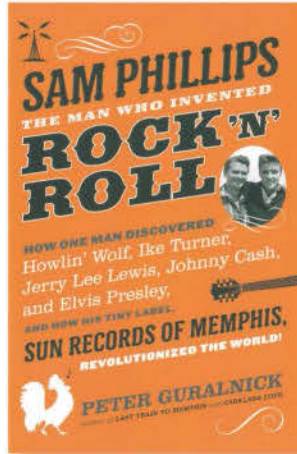
In *Lost Highway*, published soon after he was introduced to Sam Phillips, in 1979, Peter Guralnick said he had long dreamed of meeting the Sun Records founder, who produced the hits that introduced Elvis Presley and other pioneering rock'n'roll performers. He dedicated *Lost Highway* to Phillips and the blues singer Howlin' Wolf, calling them "the real heroes" of the musical genre, and a quarter-century relationship between Guralnick and Phillips followed. This long, densely detailed biography is its affectionate culmination.

Many rock'n'roll fans will relish every ingredient of this banquet of a book; others won't care that Jack Clement got his job at Sun after bringing in a tape he'd made of Billy Riley, whom Clement had met while hitchhiking home with Slim Wallace after a night in jail with a girlfriend of Wallace's wife who'd drunk too much, and . . . Well, if you have a limited literary appetite, skip the side orders. There's plenty to savor in the main dishes Guralnick serves up.

Born poor on an Alabama farm, Phillips (1923–2003), as a boy, picked cotton alongside black laborers. He heard their music in the fields and pouring from a local church, and he admired their creativity, their "invincible determination." In 1950, while working at announcing and engineering for radio, he opened a small studio called Memphis Recording Service. Phillips had a musical mission: "I was looking for a higher ground, for what I knew existed in the soul of mankind. And especially at that time the black man's spirit and his [soul]." He proceeded to record such black artists as Ike Turner and his band (performing "Rocket 88"), B.B. King, Wolf, and others, for labels that included Modern and Chess.

Phillips often said, "If I could find a white man who had the Negro sound and the Negro feel, I could make a billion dollars," but the laugh that followed implied that money wasn't his real goal. It was "the vision," Guralnick states, "it was what would come afterward." That would turn out to be a revolutionary musical category, propelled by a few independent record manufacturers and maverick disc jockeys, that ultimately demolished the barrier between America's black and white audiences. "Rock and roll was no accident," Phillips asserted. "Absolutely not an accident at all."

In 1954, Phillips found his white Negro: a 19-year-old who had initially stopped by to cut a record for his mother. Elvis Presley had "genuine humility . . . mixed with intense determination. He was, innately, Sam thought, one of the most introverted people who had ever come into the studio." Guralnick quotes Phillips as saying that Presley's "insecurity was so *markedly* like that of a black person."



It wasn't Elvis who handed Phillips his first real smash. Carl Perkins did that, with "Blue Suede Shoes," after Phillips, who perpetually needed money, sold Presley's contract to RCA. He demanded \$40,000 for his star, which included \$5000 in royalties Phillips owed Presley—more than a popular singer's contract had ever brought. After brokering the deal, Colonel Tom Parker, the wily manager who invariably used the honorary title a Louisiana governor had conferred on him, made Elvis a commodity.

The welcome infusion of capital let Phillips crank up the volume for other Sun artists, who included Perkins, J.R. Cash—J.R. was his actual given name, but he became John R. in the Air Force, then Johnny on stage—and a brash, boundlessly energetic

Louisiana boy initially billed as "Jerry Lee Lewis With His Pumping Piano." When Phillips first heard Lewis, "he practically jumped out of his skin."

In the late 1950s, Perkins and Cash defected to Columbia Records, which paid higher royalties. Lewis had to scrap a British tour that would have been a bonanza for Sun after his wife's age was revealed: Myra, his third wife and the daughter of his first cousin, was 13. The bankable pumping-piano player, who hadn't even bothered to divorce his second wife, instantly became a dry well, and owning an independent record company began to seem to Phillips more a burden than a boon.

Phillips began recording sessions for other labels again, and teamed up with his friend Kemmons Wilson, founder of Holiday Inn, to build a record label that would profit from the hotel chain's name. Having already started one radio station, Phillips focused on buying others. In 1969, Phillips sold his 80% interest in Sun Records, formally putting his glory days behind him.

Although Guralnick admits that his use of *Invented* in his book's title is an overstatement, he makes it clear that Sam Phillips exerted considerable influence on rock'n'roll, in recording sessions spurring and steering his seminal artists through take after take. "Sam had an uncanny knack for pulling stuff out of you [and] wouldn't let go until he got that little something extra," stated guitarist Scotty Moore,¹ one of Elvis's original bandmates; Carl Perkins said Phillips would encourage him to "walk out on a limb [and] try things I knew I couldn't do." If the artists thought some of the touches that made it onto their records were mistakes, Phillips deemed them "original." For him, that was the heart of the matter: "Most of all, *individualism* . . . individualism in the *extreme*," insists Guralnick. "To Sam if you weren't doing something different then you weren't doing anything at all." ■

David Lander (STLetters@sorc.com) has written on subjects as diverse as audio, antiques and African-American history.

1 See www.scottymoore.net/hillbillycat.html.

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Although there was a fall chill in the air, the front windows were open, and the sounds of perhaps the greatest Beach Boys ballad of all wafted into the Massachusetts night.

Perched on the edge of the couch, dear friend and *Stereophile* contributing music editor David Sokol—former editor-in-chief of *New Country* and *Disney* magazines, a man who's written about music for over 40 years and has yet to lose his passion for the stuff—was waxing poetic and weeping, ever so slightly, as the room filled with the intricate mix of voices that is “Kiss Me, Baby.”

One of the great pleasures of having a vast music collection is the ability to fall headlong into a musical obsession on a whim, absorb an entire catalog at once, and appreciate anew the genius of someone like Brian Wilson. Add wine—or, on that night, a few nips of high-end bourbon—and music is once again the most wonderful of the human arts.

That night we focused on the Beach Boys' catalog, all of which David has in original mono Capitol Records pressings, the jackets and the LPs themselves in remarkably good shape. A large part of why we settled on the Beach Boys, was Analogue Productions' reissue of much of the band's Capitol catalog in new vinyl and SACD/CD editions. Most exciting, three pivotal records, all from 1965—*Today!*, *Summer Days (and Summer Nights!!)*, and *Beach Boys' Party!*—were being released on LP in stereo for the first time. These three albums directly precede *Pet Sounds*, the band's most mature statement and the apex of Wilson's genius as producer, songwriter, and philosopher, and in these wonderful new 200gm pressings the road to that landmark album becomes clear. These records also marked the beginning of Brian's writing more direct, adult songs about subjects other than teen romance, cars, and surfing.

From *Today!* on, the Beach Boys' albums were the product of Brian's early 1965 decision not to tour with the band, and instead stay home in California, working on songs and recordings—a move followed a year later by the Beatles. Using a three-track tape deck, Brian often built up a single instrumental track for a

BRIAN'S SONG

by **ROBERT BAIRD**

Analogue Productions new stereo mixes and LP reissues of pivotal albums by the Beach Boys

song, sometimes using members of the famous Wrecking Crew of L.A. sessions musicians, then waited for the band to come off the road to record their vocals. In the recent film *Love & Mercy*, the events of this time, and Brian's inner struggles as effectively portrayed by actor Paul Dano, are central to the film. Like the *Rubber Soul* and *Revolver* period in the history of the Beatles, when the lovable Mop Tops became makers of grand pop art, these records are the sound of the Beach Boys—or, at least, Brian Wilson—evolving from a band who performed in matching striped jackets into something more profound.

“It's not a news flash,” David Sokol told me later on the telephone, “but unless you know those records, and unless you take the Beach Boys really seriously, you probably don't think about it, because people think of *Pet Sounds* almost as a monolithic thing unto itself.

“It came on gradually. [Brian] started off with those goofy surfing songs, but then, in 1963, there's ‘Surfer Girl,’ which was a gorgeous song that sort of stood out. And then it started morphing from surfing to girls, from much simpler songs and vocal arrangements to much more elaborate songs and arrangements. Plus, he's becoming this kind of introspective, lonely kid, with songs like ‘In My Room,’ which is also on the *Surfer Girl* album [1963]. On *Shut Down Volume 2* [1964], ‘Fun, Fun, Fun’ was the first single. It came out February 15, the week after the Beatles were on The Ed Sullivan Show. But also on that album were ‘Don't Worry Baby’ and ‘The Warmth of the Sun.’”

According to Chad Kassem, founder and president of Acoustic Sounds, the parent company of Analogue Productions, his Beach Boys reissue project began when he was approached by EMI, which owned Capitol Records (both labels are now owned by Universal Music). “They came to me with an opportunity, and they asked me if I wanted to do this and would I do this,” Kassem told me in a recent interview. “They

The Yin and Yang of the Beach Boys, Brian Wilson and Mike Love.

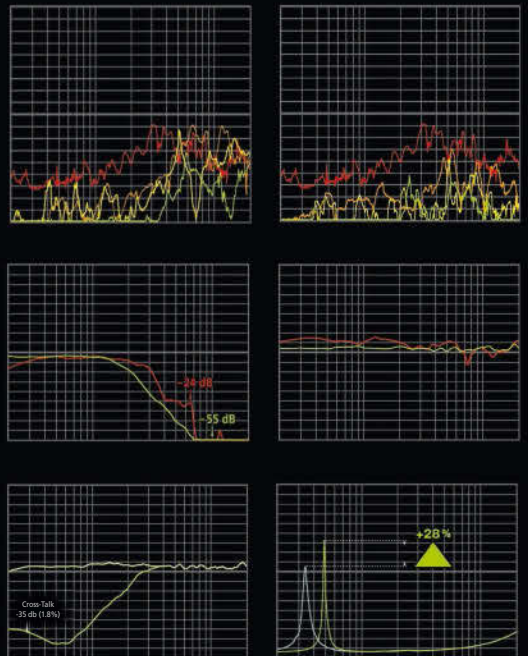
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conducting a critical listening test

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acoustical, mechanical and
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YG Acoustics™ conducts.





The Brothers Wilson (clockwise from left), Brian, Carl, and Dennis.



knew that I could do it right. They wanted it to be the definitive reissue series. They wanted me to be the one to do the whole catalog.”

The mastering for the new LPs was done by Kevin Gray at Cohear-ent Audio, in North Hills, California, and the discs were pressed at Kassem’s own Quality Record Pressing (QRP) facility, in Salina, Kansas. The new stereo mixes were created by engineer Mark Linett, at Your Place or Mine Recording, in Glendale, California. Linett, credited on these reissues as “Audio Consultant,” has been in charge of the Beach Boys’ tape archives for 30 years, and was the man behind the digital remastering in 1990 of the band’s entire Capitol catalog, released in the US on CD twofers. Linett is also responsible for the remixed, remastered version of *Beach Boys’ Party!*, which he calls “the Beach Boys unplugged.” The two-CD set released in November 2015 by UMG features the original album minus the overdubbed “party,” as well as 69 other tracks of music and dialog recorded at the same sessions. A vinyl edition of just the original album, remixed and remastered, was released in December 2015.

When I spoke with Linett, he said, “I literally got the job with Brian [in the beginning] because I booked Ocean Way studios one day for a client, and they mentioned that Brian had booked a last-minute session two days from now and they needed an engineer, and did I want to do it. Of course, the answer was yes.”

One of the keys to any Beach Boys reissue project is the fact that they have control of their tape library. “Back in the day,” Linett said, “if you were lucky they would save the final tape that the master was mixed from, but they would chuck all the intervening masters, dubdowns if there were any, and

all the session stuff. Otherwise, they’d have literally needed a hundred city blocks to store everything. And then, of course, nobody ever thought that stuff would be valuable. We’re fortunate—we have close to 90% of everything they ever recorded, including the session outtakes. Without that stuff, we couldn’t have done the *Pet Sounds* box, for example, or any of these projects where we display the working process.”

Over the past decade, Linett has been bringing the Beach Boys’ entire archive of recordings into the digital realm. This has given him nearly instant access to any part of their extensive recording catalog. In 1995, he made the first stereo mix of *Pet Sounds*, to celebrate the 30th anniversary of that album’s release, in 1966, and later helmed the 5.1-channel surround-sound mix. In 2012, Linett built stereo mixes of *Today!*, *Summer Days* (and *Summer Nights!!*), and *Smiley Smile* for a series of CD reissues released that year in Japan, and a year later in the US. He created high-resolution (24-bit/88.2kHz) digital stereo master files for the new Analogue Productions LPs, which were then printed to 1/4" analog tape at 15ips CCIR. The new stereo master of *Pet Sounds*, produced by Linett under Brian Wilson’s supervision, is an assembled digital multitrack master mix in which the original four-track instrumental master is synced with the four- or eight-track vocal overdubs master. The stereo mix was mixed to 1/4" tape at 15ips with Dolby SR noise reduction. The new stereo mix for *Beach Boys’ Party!* was created in 2012 from the original three-track master tapes. The details of all of this are available on the Acoustic Sounds website, as are videos

Kassem made about the process of reissuing the Beach Boys’ Capitol catalog.¹

“When Brian really took control of the albums, he allowed Capitol to do stereo mixes,” Linett continues. “He stopped allowing that with *Today!* It’s really more about how he started changing his recording techniques, and those mixes were generally dubbed down to three tracks, so you’d wind up with a mono band track and two tracks of vocals. They’re kind of odd mixes. *Today!* could have been done the same way, but there are a few songs here and there where overdubs were performed as it was being mixed, the most notable one being ‘Help Me, Ronda,’ (which is on *Today!* as Ronda and on *Summer Days* in its single version as Rhonda) where there was a bunch of overdubbing going on as it was being mixed to mono.”

Linett says he can’t remember if he used true mono versions to build the stereo mixes on *Today!* or, instead, a process known as digital extraction from his 1990 remastering. “Those techniques are getting pretty scary, in terms of, if you massage them, what you can get out of it. If we did the digital extraction, it was because either we didn’t have the tapes, like on ‘Good Vibrations,’ or overdubs were done on the dubdown, like ‘Help Me, Rhonda.’ By the time you get to *Summer Days* it gets even more problematic, because now he was still cutting his tracks in three-track and then bouncing it down to mono, half of it over at CBS studios, which had the only eight-track machine in town. He locked the mono band track and then used the rest for vocals, so it became even more problematic, as far as a stereo mix. I guess the [label’s] solution was just no stereo mix, and Capitol would do a phonic [as in stereophonic], boxed stereo version.

“[To create a stereo mix now,] the older ones generally require synchronization of multiple tapes—and again, the fact that we control our masters helps, because if the basic track was recorded spread out over three tracks and then bounced to mono on another machine, if you want to spread out the band track, you’ve got to sync that original three-track to the dub reel, so you wind up with five or six tracks that you can then actually mix in stereo. Over the years, we’ve done that with a variety of formats, most recently using hi-rez digital to transfer them. It takes a bit of time, because no two tape

¹ See http://store.acousticsounds.com/a/2776/The_Beach_Boys.

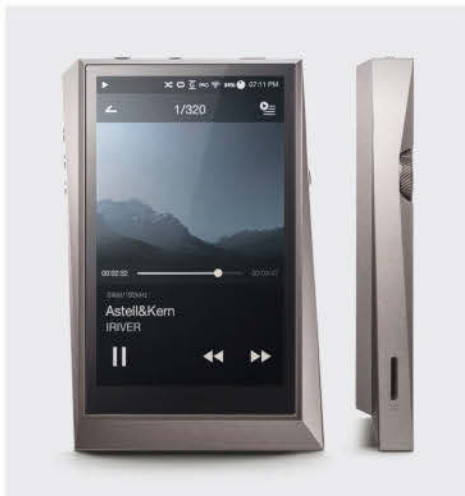
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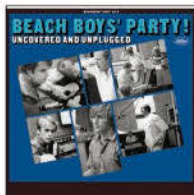
PCM	32bit 384kHz Bit to Bit
DSD	Native DSD Playback DSD 2.8MHz(DSD64) / DSD 5.6MHz(DSD128) / DSD 11.2MHz(DSD256)
DAC	AK4490 x2(Dual DAC)
PEQ	Support
Femto Clock	Support
USB DAC	Max 32bit 384kHz / DSD 11.2MHz(UAC 2.0)
Built-in Memory	256GB

AK320

24bit 192kHz Bit to Bit
DSD to PCM DSD64/128 → PCM 24bit 176kHz
AK4490 x2(Dual DAC)
Support
Support
Max 24bit 96kHz(UAC 1.0)
128GB



Brian Wilson, at the piano, in his native environment: the studio.



machines run the same. So you have to use the mono band track on the second machine, to get the speed close enough to the first tape that you can hear the two performances “phasing” for at least 30 or 40 seconds. Once you’ve got that, then you can do the transfer, and then move the pieces slightly to keep them in sync to get something to mix from. That’s the way [the stereo mixes] for *Today!* and *Summer Days* were constructed. *Party!* was just a straight stereo mix.”

While Linett is pleased with the results, he’s not really a fan of monkeying with an artist’s original intentions. Calls to Brian Wilson’s manager, to find out what Wilson thought of the new stereo mixes, went unreturned.

“Brian will tell you that one of the reasons people like he and Phil Spector didn’t like stereo is because it would keep the listener from hearing what the producer intended. In mono, you’re absolutely going to hear what he wanted. In stereo, where are the speakers? There’s one behind the couch. Are they out of phase? It interfered with the artistry.

“As a consumer, I have problems with a lot of remixes of older stuff that quite often get it wrong. I worked for Frank Zappa in the ‘70s, and I always

thought it was unfortunate that at some point in his life he decided to go back to the early Mothers albums and tried to replace the drums. What a waste and ultimately they all been replaced with better remasters of the originals.

“On the other hand, I’m one of those people who think the stereo of *Sgt. Pepper’s* is way better than the mono, and I think it is because the mono sounds to me like what it was: the one they got involved in and removed a lot of stuff and changed a lot of stuff. The stereo just seems like it flows better. Like all artists of that period, they didn’t pay attention to the stereo mixes. They did after that. I hadn’t listened to it in a long time, and I got the two boxed sets and listened to the mono. That’s all I had when I was a kid. I listened, and I went, ‘Oh God, why is that mixed down so you can’t hear it? What happened to that part?’ Part of it is familiarity. It tends to imprint what you’ve heard, so an omission or a change tends to stick out more. But I didn’t enjoy it as much. It’s funny.”

There must have been a bunch of glitches—differences between the Beach Boys’ session tapes and the mono masters—that couldn’t be reconciled?

“There are always little things that you can’t duplicate. *Pet Sounds* has two or three instances where there’s something on the mono record that isn’t on the multitrack, usually because it was recorded over. For some reason, Brian would decide to use part of an earlier mix. The most obvious example is Mike Love singing the bridge of ‘Wouldn’t It Be Nice.’ Brian resang the whole thing, and that’s what you hear if you bring up the multitrack now. But he apparently spliced in the bridge from an earlier vocal take that Mike did and used that in the mono mix. We’ve flown that in as best we can on the stereo.

“The other one is the vamp of ‘God Only Knows,’ which has a part missing. I wanna say it’s Brian singing it instead of Carl, something like that, that we couldn’t fix. And for the most part, people seem to have accepted that.

As David Sokol said, “Brian was writing these songs, and Brian was George Martin, too. You can make the argument that Brian was like John, Paul, George, and George, wrapped into one.”

More fruits of Brian Wilson’s labors are due soon from Analogue Productions: reissues of *Smiley Smile* (1967), *Sunflower* (1970), *Surf’s Up* (1971)—and *Holland* (1973), which will be turned into a double album with extra material. All are due before summer 2016.

So far, Kassem is well pleased with the results. “We searched and tried to get all the masters we could. On the monos, everything was true masters. The old-school tip-on jackets are beautiful. Two-hundred-gram vinyl: they are the highest quality. I think we did a great job. I think the albums look and sound better than ever.”

Back in Massachusetts, the 1792 Ridgmont Reserve bourbon was warming our ears and loosening our tongues. As we played “Kiss Me, Baby” again, this time from a mono 45rpm pressing, David turned the picture sleeve of that single, b/w “Help Me, Rhonda” over in his hands and pondered.

“The lyrics are so introspective for someone as young as he was at the time,” he said. “And the way that he plays the singers, himself and Mike Love, off of each other—it’s such a thing of beauty. It’s such genius that he could not only write for each member of the band as singers, but he also had these narratives in his songs that were just remarkable. It’s beautiful stuff. His songs were just so full of heart.” ■

ART DUDLEY

Metronome CD8 S

CD PLAYER & D/A PROCESSOR

I don't listen to music when I write, even when I write about listening to music: When there's music playing, it almost always gets my full attention—and I'm no good at multitasking. (And if I'm around music that's awful and I'm powerless to stop it, I have to leave the premises.) A rare exception is when I listen to CDs while proofreading, because proofreading is fairly brainless stuff—and as playback formats go, the Compact Disc isn't the most musically compelling.

In recent years, that last observation has been challenged a very few times, most notably by CD-playing source components from Naim Audio, Ayre Acoustics, 47 Laboratory, and Audio Note—products that upset my composure by leading me to the music and making me drink it.

Now another new product is disturbing my peace: the CD8 S (\$10,000), which French manufacturer Metronome Technologie describes as an *integrated player*, in the same sense that many hundreds of electronics manufacturers describe their preamplifier-amplifier combinations as *integrated amplifiers*. Lest that seem like just so much nominal silliness, consider: The Metronome CD8 S—which recently *evolved*, Hillary-like, from the well-established Metronome CD8—is equipped with USB and S/PDIF digital-input jacks, so its internal DAC can be used with external digital sources. Consider also that the Metronome's D/A converter *technically* outpaces the disc transport with which it shares space in the case . . . but I'm getting ahead of myself.

Description

The Metronome CD8 S first caught my eye as part of a silent display at last year's New York Audio Show,¹ which was noted for having taken place not in New York City but in Rye Brook, in Westchester County. ("It's easier for me to travel to Munich than to Rye Brook," declared the newly carless Herb Reichert from his Bed-Stuy sanctum.) The initial attraction was, I admit, skin deep: I considered the CD8 S one of the most perfect-looking appliances I've seen.

Viewed from above, the 17.6" wide by 17" deep Metronome is nearly square—only later would I realize that those dimensions are *precisely* the same as those of my Sony SCD-777 SACD/CD player—with a top-loading disc transport whose mechanical and aesthetic designs appeared to be in perfect sync with one another: The CD8 S seemed both artsy and purposeful. Notably, both the player's top surface and its 4"-high aluminum-alloy front panel mixed two different shades of metallic gray, one a few degrees warmer than the other, to create an elegant, sculpted look. (I know nothing of the psychology of color perception, but a few weeks after the New York show, when my review sample of the CD8 S arrived, I was surprised to see that the manufacturer describes the color as "silver": Its textured finish and combination of hues led me to think of it as light taupe.)

I was also impressed by the CD8 S's disc-loading mechanism—a simple sliding lid, devoid of needless motors and endowed with a *just-right* feeling that bordered on the sensual—and its top-mounted control panel. The latter comprises five small pushbuttons for the usual functions: previous track, stop, play, pause, and next track. Like the aesthetics of the player as a whole, the orthography of the control panel is unique: Each switch is labeled with a symbol that looks abstract yet strangely intelligible. It took me a moment to realize that each graphic was created by taking the universal media-control symbol for that function—the sideways Christmas trees for skipping tracks, two parallel vertical bars for pause, etc.—rendering them in outline, rounding off the corners, and bisecting them horizontally. Neat.

Although its controls are on top, the CD8 S's standard-issue digital readout is centered on its front panel, along with two miniature toggle switches: one for On/Off, the other for selecting among three different inputs: USB (Type B socket), S/PDIF (RCA jack), or the built-in disc transport. For the first two selections, the display also shows sampling

¹ See www.stereophile.com/content/new-york-audio-show-day-one.

SPECIFICATIONS

Description Single-box CD player. Analog outputs: 1 pair single-ended (RCA), 1 pair balanced (XLR). Digital inputs: 1 USB (Type B), 1 S/PDIF (RCA). Input resolution, USB: up to 32-bit/384kHz. Input resolution, S/PDIF: up to 24-bit/192kHz. Digital input impedance, S/PDIF:

75 ohms. Output voltage, single-ended and balanced: 2.5V RMS. Output impedance, single-ended: 75 ohms. Output impedance, balanced: 600 ohms. Frequency response: 10Hz–50kHz, ± 0.1 dB. Signal/noise: >95dB. **Dimensions** 17.6" (450mm) W by 4.5" (115mm) H by 17"

(435mm) D. Weight: 33 lbs (15kg).

Finishes Silver, Black.

Serial number of unit reviewed 305.

Price \$10,000. Approximate number of dealers: 5.

Manufacturer Metronome Technologie, ZAC de Roumagnac, 38 avenue

de l'Europe, 81600 Gaillac, France.

Tel: (33) (0)5-34-26-11-33.

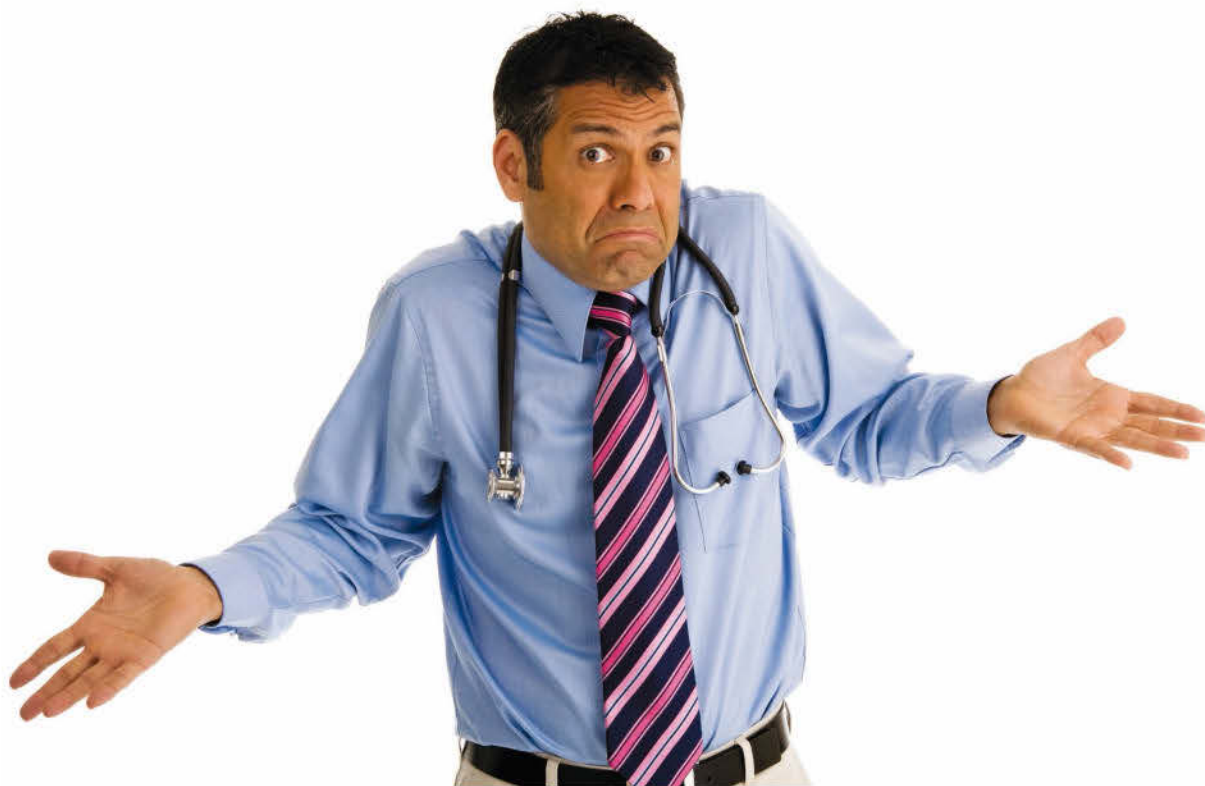
Fax: (33) (0)5-34-26-17-11.

Web: www.metronome-technologie.com.

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*Gerald L. Gibson, Head of the Motion Picture, Broadcasting, and Recorded Sound Division of the Library of Congress, 1991

rates, preceded by an uppercase *P* for PCM files or, for DSD files, a lowercase *d*. (Let's not read too much into that, shall we?) Thus, files ripped from "Red Book" CDs came up as "P 44.1" (the period was actually rendered as a teensy-tiny colon), DSD128 files came up as "d 128," and so forth.

And there you have the Metronome CD8 S's Big Surprise: It does DSD. Or, at least, its D/A converter does DSD—it's disc transport does not. On the one hand, that seems a bit odd, like a four-wheel-drive vehicle with very little ground clearance. But then it dawns: Just as most owners of 4WD vehicles aren't interested in off-roading, it can be argued that most digital-audio enthusiasts aren't interested in SACDs (which I regard as a niche format—although, as an LP collector, I have no right to condescend).

At the heart of the CD8 S's DAC is the AK4490EQ, a two-channel, 32-bit Velvet Sound chip from Asahi Kasei Microdevices (AKM), of Japan. This chip supports up to 768kHz PCM digital and 11.2MHz DSD, and incorporates its own digital filtering—although Metronome says they supplement the AKM's filter with circuits of their own design. The CD8 S's DSD-friendly USB receiver is the Combo384 module from the Italian firm Amanero, the model number of which signifies its support for up to 384kHz. Analog out-

put gain is created with two OPA604 FET-input op-amps per channel.

The CD8 S incorporates a specially modified Philips CDM12 Pro2 (v.6.8) transport, for which Metronome makes their own removable, puck-style magnetic clamp. The transport mechanicals are fastened to a large and vaguely T-shaped platform made of 0.3"-thick black acrylic. That platform is isolated from its surroundings by means of

I considered the CD8 S one of the most perfect-looking appliances I've seen.

a three-point suspension using outside (2.4" high by 2.3" in diameter) foam-rubber dampers instead of springs. Additional dampers atop the three suspension points appear to both enhance isolation and confer enough of a cushioning effect for the CD8 S to be safely shipped without the need for transit bolts.

Speaking of niches: When one slides open its lid, the Metronome's disc compartment is suffused with a ghostly blue light that looks especially nice against the glossy black

MEASUREMENTS

I measured the Metronome CD8 S with my Audio Precision SYS2722 system (see www.ap.com and the January 2008 "As We See It," <http://tinyurl.com/4ffpve4>). As well as using test signals on CDs, I tested the Metronome by feeding its coaxial input S/PDIF data from the SYS2722, and its USB input data sourced from a battery-powered MacBook Pro running Pure Music 2.0. The S/PDIF input would accept data sampled at all rates from 44.1 to 192kHz. Apple's US Prober utility identified the Metronome as "Combo384 Amanero" from "Amanero Technologies," and confirmed that it operated in the asynchronous mode. Mac's AudioMIDI utility stated that the Metronome's USB input would accept 32-bit integer data at all sample rates from 32 to 384kHz. However, when I fed the CD8 S's USB data sampled at

384kHz, although the player's display correctly indicated "P 384," there was no audio output.

Tested with the Pierre Verany *Digital Test CDs*, the CD8 S demonstrated superb error correction, playing tracks with gaps in the data spiral of up to 3mm without skipping. The maximum output level at 1kHz was 6.06V from the balanced outputs and 3.06V from the unbalanced outputs, the latter 3.7dB greater than the CD standard's 2V. Both outputs preserved absolute polarity (ie, were non-inverting), the XLR jacks being wired with pin 2 hot. The unbalanced input impedance was very low, at 57 ohms at all audio frequencies. The balanced output impedance was appreciably higher, at 1196 ohms across the audio band. Channel

separation (not shown) was excellent, at >105dB in both directions across the audioband.

Fig.1 shows the Metronome's impulse response with CD data: a conventional, time-symmetrical Finite Impulse Response (FIR). The red and magenta traces in fig.2, taken with white noise burned to a CD-R Audio disc, reveals that this filter rolls off sharply above half the sample rate (indicated by the green vertical line), the result being that the aliased tone at 25kHz that results from a full-scale signal at 19.1kHz (blue and cyan traces) is suppressed by 85dB. The CD8 S's measured performance so far appeared to be as expected, but when I looked at its frequency response I ran into problems. The green and gray traces in fig.3, taken with tones from a test CD, show the same sharp rolloff seen in fig.2. The cyan and magenta traces in fig.3, taken with 96kHz-sampled data fed to the Metronome's S/PDIF input, feature a sharp rolloff above 43kHz. However, with 192kHz-sampled data fed to the S/PDIF input, I got the blue and red traces in fig.3: the response overlaps the 96kHz traces up to 48kHz, including the very sharp rolloff, but then returns to full level above 50kHz. Puzzled, I repeated the test with USB data and got the same result. There is something awry with how the CD8 S handles data sampled

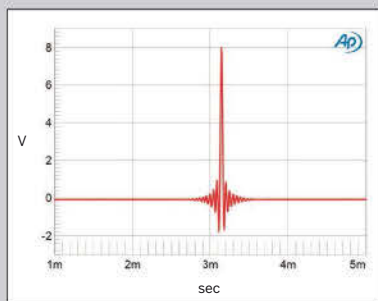


Fig.1 Metronome CD8 S, impulse response at 44.1kHz (4ms time window).

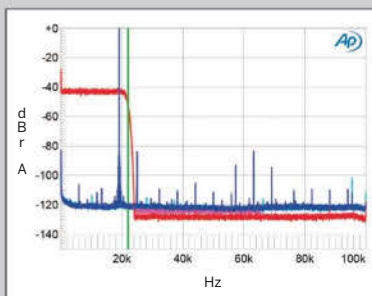
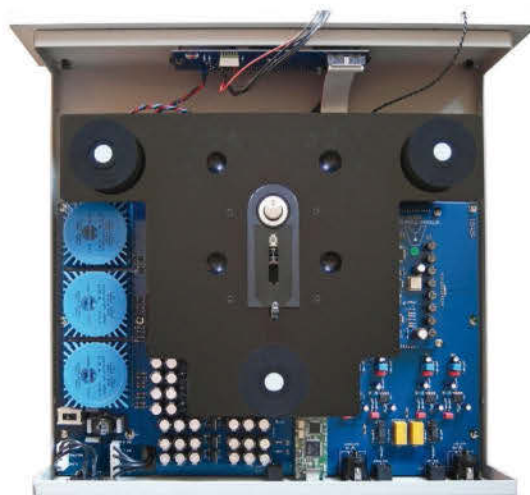


Fig.2 Metronome CD8 S, wideband spectrum of white noise at -4dBFS (left channel red, right magenta) and 19.1kHz tone at 0dBFS (left blue, right cyan), with data sampled at 44.1kHz (20dB/vertical div.).

of the acrylic platform—and assists in the changing of discs and the placing of pucks when the lights are low. According to Jean-Marie Clauzel, Metronome's general manager, the light neither hinders nor enhances performance—and is in fact extinguished, refrigerator-style, when the lid is shut.

Also supplied with the CD8 S is a remote handset that duplicates all of the controls on the player itself, and adds controls for fast forward and reverse within a given track. Happily, the remote's Volume ring, obviously intended for some other product, can be used to toggle among the player's three input modes. Also happily, the 10"-long handset almost reaches from my listening seat to the CD8 S's location on my equipment rack: Another inch or two and I could use it as a stick with which to work the player's switches, thus saving on batteries. Really.



T is for transport: a look inside the Metronome CD8 S.

Installation and setup

There isn't much one can say about installing the CD8 S, thus confounding the reviewer who's paid by the word or the column inch. All I did was take it out of the box, put it on the topmost surface of my Box Furniture rack, and plug in its AC power cord. The Metronome has both single-ended (RCA) and balanced (XLR) output jacks; I used the former.

Preparing the CD8 S for use with my Apple iMac required slightly more brainpower but was still easy enough—at least for use with PCM-based file

And there you have the Metronome CD8 S's Big Surprise: It does DSD.

measurements, continued

at rates greater than 96kHz.

Looking at this result for data sampled at 192kHz in greater detail, note that the horizontal scale in the graph is the frequency of the input signal encoded by the digital data. When I actually looked at the frequency of the analog signal being output by the Metronome for input frequencies above 48kHz, it was actually an aliased product. For example, when the input signal had a frequency of 60kHz, the output signal was actually 36kHz (96,000–60,000). So what you see above 48kHz with the blue and red traces in fig.3 are frequencies mirrored above the 96kHz Nyquist frequency (half the 192kHz sample rate), not actual audio. Real music does not have high-level content above 48kHz, so

this behavior might look worse than it sounds. But again it suggests that the CD8 S does not correctly handle high-sample-rate data.

I asked Art Dudley if he had heard any difference in sonic character when playing 96kHz data vs CD-derived data; he hadn't, responding that "they were similarly pacey, and not the least bit harsh."

With 44.1kHz-sampled data fed to the S/PDIF input, an increase in the bit depth from 16 to 24 dropped the noise floor by more than 20dB (fig.4), suggesting that the CD8 S's DAC section offers resolution approaching 20 bits, which is excellent. But note the appearance in fig.4 of odd-order harmonics with 24-bit data (blue and red traces), which suggests that the LSB is being

truncated somewhere in the signal-processing circuitry. I got an identical result with 44.1kHz data fed to the Metronome's USB input, though there was now a low-level spurious tone at 5.7kHz present.

Then I found more anomalous behavior. Repeating the test used to produce fig.4 with 24-bit data sampled at 48kHz fed to the S/PDIF input, I got the result shown in fig.5. The odd-order harmonics are still present, but the spectrum of the 1kHz tone at –90dBFS is now overlaid with a large number of low-level spikes. I repeated the test with data sampled at 96kHz and 176.4kHz and got similar results to that shown in fig.5, though with data sampled at 88.2kHz, the spectrum was as clean as it had been in fig.4.

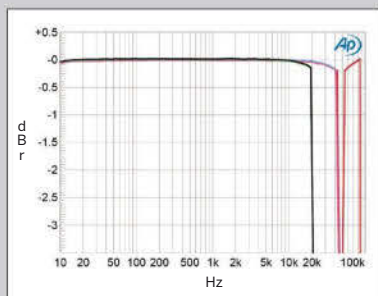


Fig.3 Metronome CD8 S, S/PDIF input, frequency response at –12dBFS into 100k ohms with data sampled at: 44.1kHz (left channel gray, right green), 96kHz (left cyan, right magenta), 192kHz (left blue, right red) (0.5dB/vertical div.).

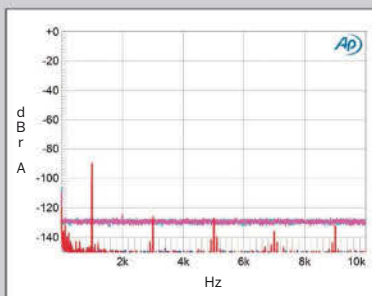


Fig.4 Metronome CD8 S, S/PDIF input, 44.1kHz data, spectrum with noise and spuriae of dithered 1kHz tone at –90dBFS with: 16-bit data (left channel green, right gray), 24-bit data (left blue, right red) (20dB/vertical div.).

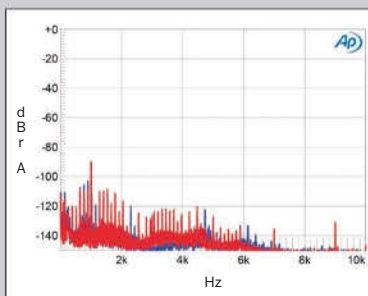


Fig.5 Metronome CD8 S, S/PDIF input, 48kHz data, spectrum with noise and spuriae of dithered 1kHz tone at –90dBFS with 24-bit data (left channel blue, right red) (20dB/vertical div.).



Actual Size

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formats. After I'd run a cable from a USB Type A socket on the iMac to the Metronome's USB Type B socket, a selection labeled "combo384 Amanero" appeared in the Sound/Output pulldown menu of my iMac's System Preferences window. I clicked on that and all was well—until I decided to play some DSD files, for which I use DSD-friendly Audirvana Plus v.1.5.12. I was able to select the Metronome—again, as "combo384 Amanero"—from within Audirvana's Preferences window, but Audirvana's Automatic Detection function didn't recognize the CD8 S's native DSD capability, forcing me to select DSD over PCM standard 1.0. After doing that, then going back and selecting the Metronome from within my iMac's Audio MIDI Setup utility, all was *really* well.

A final setup note: The CD8 S's steel case is supported by three feet of fairly large diameter (2.3"), each made mostly of polymer but with a metal disc recessed into its center. Also supplied with the CD8 S are three polymer cones with



Uncluttered:
the rear
panel of
the CD8 S.

Given better-quality symphonic recordings, the CD8 S rose to the challenge.

magnets at their tops—again with the magnets!—that are sized to snug into those recesses. I tried it both ways and preferred the sound sans cones: It seemed to me the pointed feet diminished the *substance* of the sound, and added a fussiness that distracted from the player's musicality. But, hey, that's just me.

measurements, continued

It appears that while the Metronome performs well on this test with data sampled at 44.1kHz and 88.2kHz, it has problems with 48kHz-family data (48, 96, 192kHz) as well as with 176.4kHz data. A puzzle—unless the CD8 S uses a sample-rate converter for data sampled at frequencies other than 44.1kHz.

Nevertheless, with 16/44.1 data representing an undithered 1kHz tone at exactly -90.31dBFS, the output waveform was essentially perfect (fig.6), with the three DC voltage levels clearly defined. With undithered 24-bit data, the result was an excellent sinewave (not shown).

The Metronome player offered low levels of harmonic distortion. Even into 600 ohms (fig.7), the second harmonic, the highest in level, lay at

-77dB (0.014%). However, a regular series of low-level paired spuriae can be seen in this graph, which was taken with 24/44.1 data. Repeating the test with 24/96 data (fig.8) increased the level of the second harmonic to -70dB (0.03%), which is probably not significant. However, many more spuriae can be seen, again suggesting that the CD8 S does not handle 48kHz-family data as well as it does 44.1kHz-family data.

The CD8 S performed well on the demanding high-frequency intermodulation test, with all the distortion products at extremely low levels (fig.9). But note the spectral spreading at the bases of the two primary tones. This is due to sidebands at the power-supply-related frequencies of ± 120 , ± 240 , and ± 360 Hz, etc. And when I tested the CD8 S's rejection

of word-clock jitter with 16-bit J-Test data burned to a CD-R Audio disc, the spectrum was spoiled by similar sidebands, at much higher levels than I have found with other players (fig.10). The odd-order harmonics of the LSB-level low-frequency squarewave are all slightly higher than they should be, the desired levels indicated in this graph by a green line. Repeating this test with S/PDIF data gave a very similar result, while USB J-Test data resulted in the production of much worse jitter-related sidebands in the left channel (fig.11, blue trace).

To check that there was not some kind of incompatibility with the Audio Precision test system, I recorded the Metronome's output on a battery-powered digital recorder while it played the J-Test CD-R. Performing

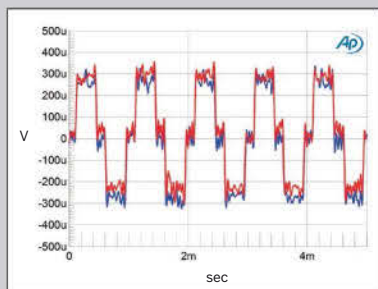


Fig.6 Metronome CD8 S, waveform of undithered 1kHz sinewave at -90.31dBFS, 16-bit data (left channel blue, right red).

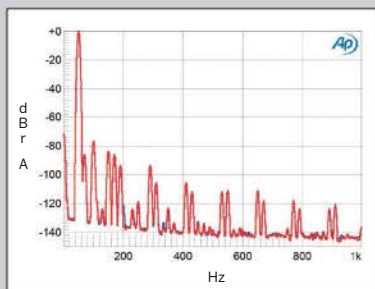


Fig.7 Metronome CD8 S, 44.1kHz data, spectrum of 50Hz sinewave, DC-1kHz, at 0dBFS into 600 ohms (left channel blue, right red; linear frequency scale).

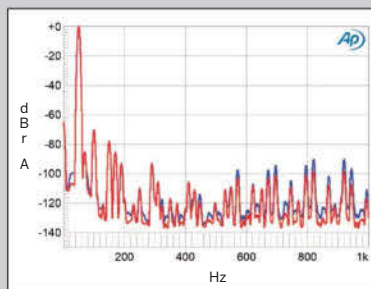


Fig.8 Metronome CD8 S, 96kHz data, spectrum of 50Hz sinewave, DC-1kHz, at 0dBFS into 100k ohms (left channel blue, right red; linear frequency scale).

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Listening to CDs

My first impression was that the CD8 S let CDs sound notably smooth and silky, with really good musical momentum and flow—cold, right out of the box. (I mean *literally* cold: The UPS man probably hadn't made it to the bottom of the driveway by the time I'd plugged in the Metronome.) Those qualities were evident with Mstislav Rostropovich's 1995 recordings of J.S. Bach's Cello Suites (2 CDs, EMI 5 55364 2): The Metronome cozied up to Slava's very brisk and polished yet nonetheless emotional (especially Suite 5) performances. During the first 45 minutes or so, the sound was a little plasticky and lacking in texture, and the Metronome seemed to have little going for it in the scale department: dB for dB, things sounded smaller than I'm used to hearing from the best digital sources.

But boy oh boy, did that ever change. *After* those first 45 minutes, I heard distinct increases in both texture and scale. Color saturation, too, went up a notch. Then, maybe 90 minutes after installing the CD8 S, I heard a change so drastic, and virtually in front of my ears, that I laughed out loud:



An honest puck: the Metronome's disc clamp, in situ.

The Metronome's disc compartment is suffused with a ghostly blue light.

The sound got huge—*huge*, I say!—and both texture and color went up a few more notches. With regard to the latter characteristics, I wasn't yet in Audio Note territory—and I

measurements, continued

FFT analysis on the resulting WAV file gave a result similar to that shown in fig.10. When I then looked closely at the 44.1kHz-sampled 19.1kHz data used to generate the blue and cyan traces in fig.2, it appeared that the lowest amount of supply-related sidebands could be seen with USB data. CD data were slightly worse, and S/PDIF data worse still.

One thing I did note was that the Metronome's data receiver could work with sample rates very different from the "legal" frequencies. For example, when I fed the S/PDIF input with 1kHz data sampled at 200kHz, the player's display still indicated "192" and the output was a 1kHz sinewave. When I fed the Metronome 1kHz data sampled

at rates ranging from 42kHz to 47kHz, this display indicated "44:1" and the output was a consistent 1kHz sinewave. This tolerance for the input-data sample frequency is generally not felt to be a good thing, because it means that the receiver circuitry will have compromised word-clock jitter rejection.

The most likely cause of the supply-related sidebands in figs. 10 and 11 is inadequate rejection of voltage-rail ripple on the DAC chip's reference-voltage pin. I'd had the Metronome plugged into the wall with a conventional power cord fitted with a three-pin, grounded plug for all the testing. But when I repeated the testing of the player's jitter rejection, lifting the ground with a cheater plug, there was

no significant change in the measured performance.

The Metronome CD8 S is a beautiful-looking audio component. But I was concerned about its idiosyncratic measured performance, especially with data sampled at rates other than 44.1kHz and 88.2kHz. It could be argued that as the result of the questionable behavior occurs at low levels, it might not have a major effect on sound quality. And it is fair to note that Art Dudley did most of his auditioning of the CD8 S with data sampled at 44.1kHz, where the player performs at its best. Nevertheless, its measured performance suggests that the Metronome player is sub-optimally engineered.—John Atkinson

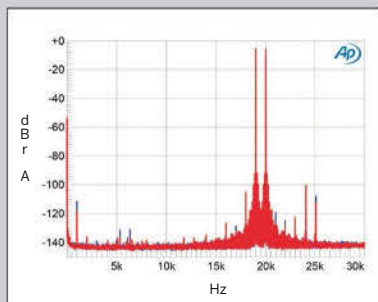


Fig.9 Metronome CD8 S, 44.1kHz data, HF intermodulation spectrum, DC–30kHz, 19+20kHz at 0dBFS into 100k ohms (left channel blue, right red; linear frequency scale).

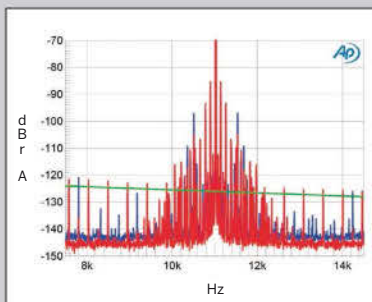


Fig.10 Metronome CD8 S, high-resolution jitter spectrum of analog output signal, 11.025kHz at –6dBFS, sampled at 44.1kHz with LSB toggled at 229Hz: 16-bit CD data (left channel blue, right red). Center frequency of trace, 11.025kHz; frequency range, ±3.5kHz.

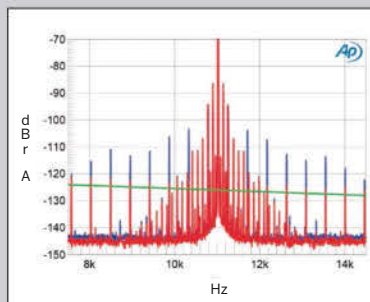


Fig.11 Metronome CD8 S, high-resolution jitter spectrum of analog output signal, 11.025kHz at –6dBFS, sampled at 44.1kHz with LSB toggled at 229Hz: 16-bit data via USB from MacBook Pro (left channel blue, right red). Center frequency of trace, 11.025kHz; frequency range, ±3.5kHz.

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was still far from good vinyl territory—but I was reasonably well satisfied.

Encouraged by such good performance with small-scale classical music, I moved on to tenor Peter Schreier's 1989 recording, with pianist András Schiff, of Schubert's song cycle *Die Schöne Müllerin* (CD, London 430 414-2). Schiff's touch was appropriately light in "Halt," his instrument well colored and textured—and the extra force he brought to the staccato lines of "Der Jäger" were communicated well. Throughout, Schreier's somewhat lean voice was present and believable, the Metronome doing nothing to round the edges of either his tone or his expressive timing.

Large-scale works? The live recording of Wilhelm Furtwängler and the Berlin Philharmonic performing Strauss's *Metamorphosen* in October 1947—when the ink on the score was scarcely dry—has appeared in countless CD (and LP) incarnations; all sound terrible, but in strangely different ways. The flaw common to all is gross distortion, beginning at about 4:29, apparently from signal overload on the original tape. The best digital version I've heard is the one in *Wilhelm Furtwängler: An Anniversary Tribute* (6 CDs, Deutsche Grammophon 477 006-2). Compared to the LP version (Deutsche Grammophon LPM 18 857) played on my Garrard 301-based rig, that CD through the Metronome lacked the appropriately sharp attacks on double basses' pizzicato notes (at 1:46, 2:00, and so forth), but was otherwise emotionally gripping and sonically tolerable—high praise, really—especially in the quieter moments. (Sadly, those are also the moments in this recording when Berlin's Titania-Palast theater sounds most like a tuberculosis sanatorium.)

Given better-quality symphonic recordings, the CD8 S rose to the challenge, as with Sergiu Celibidache's live recording, with the Munich Philharmonic, of Bruckner's Symphony 9 (2 CDs, EMI 5 56699 2). The Metronome's good sense of drive and momentum kept the *Scherzo* pointed in the right direction, even if the plucked strings didn't have quite the physicality I remember hearing from the Audio Note combination of CDT One/II disc transport and DAC 2.1x Signature digital-to-analog converter that I reviewed in January. In all three movements, the spatial relationships among various instrument groups were convincing, and instrumental timbres—especially the brass—were believably well saturated. With a very different sort of large-scale recording—Randall Thompson's "Alleluia," from the Cantus collection . . . *Against the Dying of the Light* (CD, Cantus CTS-1202)—the Metronome's good way with scale and, again, spatial placement of individual groups of musicians, added to my emotional involvement.

"Born in Chains," from Leonard Cohen's *Popular Problems* (CD, Columbia 88875014292)—probably the most convincing song of a very uneven collection—was also compelling through the Metronome, which gave the subtle dramatic ebbs and swells their due and allowed the electric bass to sound particularly right: deep and limber, with good note attacks. The electrically reedy tone of the cheap-funeral-parlor organ that opens this number was perfect, and Cohen's rusty *Sprechgesang* was front and center, with good presence and body. The Metronome's very good way with electric bass was also evident when I listened to a gold SACD of Aretha Franklin's *Aretha's Gold* (gold SACD/CD, Mobile Fidelity Sound Lab UDSACD 2142)—the 16-bit/44.1kHz layer, of course. Through the CD8 S, Tom Cogbill's perfect, in-the-pocket bass playing in "Chain of Fools" lost nothing to the

ASSOCIATED EQUIPMENT

Analog Sources Garrard 301, Thorens TD 124 turntables; Abis SA-1.2, EMT 997 tonearms; EMT OFD 25 & OFD 15 & TSD 15 pickup heads; Denon DL-103, Miyajima Premium BE Mono II cartridges.

Digital Sources Halide Designs DAC HD USB D/A converter; Apple iMac G5 computer running Audirvana Plus 1.5.12; Sony SCD-777 SACD/CD player.

Preamplification Auditorium 23 Hommage T2 step-up transformer, Shindo Laboratory Aurigues Equalizer Amplifier phono preamplifier & Masseto preamplifier.

Power Amplifiers Shindo Laboratory Corton-Charlemagne monoblocks.

Loudspeakers Altec Valencia, DeVore Fidelity Orangutan O/96.

Cables USB: Wireworld Revelation 2.0. Interconnect: Audio Note AN-Vx, Nordost Blue Heaven, Shindo Laboratory Silver. Speaker: Auditorium 23. AC: manufacturers' stock cords.

Accessories Box Furniture Company D3S rack (source & amplification components), Audiodesksysteme Gläss Vinyl Cleaner. —Art Dudley

The synth solo popped out of the mix with analog-caliber color and presence.

LP version. Otherwise, the Metronome did the best it could with engineer Tom Dowd's typically excessive crispness.

Special mention should go to the Metronome's way with King Crimson's debut album, *In the Court of the Crimson King* (CD, Discipline Global Mobile DGM0501). Even the highest sustained notes of Robert Fripp's guitar and Ian McDonald's alto saxophone, though intentionally keening, were reproduced with clarity and lack of unintentional harshness, and Michael Giles's drumming was as impactful as, I believe, the compression of the original recording allows—and nimble and propulsive, too, while retaining a sense of musical purpose that so often escapes CD playback.

Listening to files

Auditioned with files streamed from my iMac, Metronome's DAC neither rounded off edges nor filled in pores. An edgy, spitty download of George Harrison's *All Things Must Pass* (24/96, Apple) still sounded edgy and spitty. That said, when I was of a mind to listen past those qualities, the Metronome allowed the performances to sound musically absorbing. I was impressed at how the CD8 S didn't distort the musical timing of any of those recordings: even the gritty maracas in the middle eight of "Beware of Darkness" was enjoyable in its own way, propelling the song just as effectively as when I listen to it on vinyl.

And in an altogether fine-sounding file of "Marrakesh Express," from *Crosby, Stills & Nash* (24/192, Atlantic), Dallas Taylor's drumming was uncannily propulsive—as was Stephen Stills's electric bass playing: the song *moved*!

I played some selections from the most recent Gillian Welch album, *The Harrow & the Harvest* (AIFF files ripped from CD, Acony ACNY-1109), and was all but spellbound by the combination of clarity, articulation, appropriate roundness of tone, and complete absence of timing distor-

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During that time, I visited numerous audiophiles and listened to their systems. In all of those visits, I never encountered *one system* that was performing anywhere near its potential! I know that there must be some, but I certainly never encountered any.

Is it OK to tell the truth?

Few of those systems were performing at even *half* of the performance of which they were capable! And yet, the common denominator among their owners was the question, "What about upgrading to the (current rave) XYZ component?" Clearly, they thought that buying a new component—amplifier, CD player, etc.—was the path to audio nirvana.

But their priorities were misplaced. There was no need to spend another dime on components until they had gotten their system optimized to be able to "play the room."

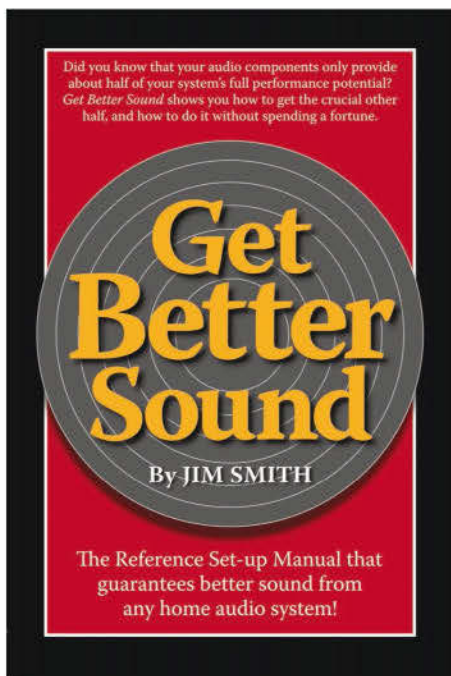
Throwing money out of the window

Let's face it. Buying a new component without getting the performance that you ought to get from it is about the same as throwing money out of the window!

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"Get Better Sound is the cheapest good tweak you can buy for your system. True—and I'm not bashful about saying it. It also has the potential to be among the best system investments you can make, period..."

—Art Dudley, *Stereophile*

Disagree slightly

I really appreciate Srajan's recent comments about *Get Better Sound*. However, I think of the manual not so much as a *shortcut*, but as a crucial—and highly affordable—*next step* to get better sound from any system.

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tion brought to the music by the Metronome. My reference DAC, the Halide DAC HD—which, of course, sells for $\frac{1}{20}$ the Metronome's price—was no match: It sounded murky compared to the DAC section of the CD8 S. Nor did the Halide, or any other DAC I've heard recently, apart from the Audio Note DAC 2.1x Signature, do as well as the Metronome at conveying the extra little *push* that singers Welch and David Rawlings put behind their repetition of the chorus near the end of the song, or catching the full timbral beauty of the brief guitar duet at the very end.

I then tried the DSD64 file of "Sledgehammer," from Peter Gabriel's *So* (Geffen), and was mostly pleased. Through the CD8 S, the song was rhythmically convincing, and its synth solo—which, in the famous video, accompanies a Claymation chicken—popped out of the mix with analog-caliber color and presence. My only disappointment was that Tony Levin's bass wasn't quite as deep, big, or powerful as it should have been.

I began by saying that I don't listen to music while I'm writing—and I don't. Even so, in this silent room I now perfectly recall the sound, through the Metronome DAC, of a DSD128 file of "When Your Lover Has Gone," from *Ben Webster Meets Oscar Peterson* (Verve). The magnificence of Webster's tone, the outlandishly huge scale of his tenor saxophone, the surefooted momentum and tunefulness of Peterson's piano, and the texture and *rightness* of pitch of Ray Brown's bass were all astonishingly good. Not just good for digital, but *good* good.

Conclusions

How best to sum up the Metronome CD8 S? After I lis-

tened to Dmitri Mitropoulos and the Minneapolis Symphony Orchestra performing Mahler's Symphony 1 (CD, Sony Classical MHK 62342), the first question to cross my mind was *Why don't I play this disc more often?* The Metronome reminded me of Mitropoulos's insights and importance as a pioneering Mahler interpreter. It reminded me of how much I love the very American sound of that orchestra, *ca* 1950. And it reminded me that, in the late 1940s and early '50s, some of the orchestral recordings on Columbia Masterworks ranked among the very best in terms of sound quality. I can't say for sure, but I suspect that, the last time I heard that CD, I wasn't quite so *engaged*.

On more than one occasion, my colleague Michael Lavorgna has reminded us all that the best gear compels us to take chances and discover new music. True, of course—but just as important is rediscovering old music that wasn't so well served the last time around.

About halfway through my listening notes for the CD8 S, I wrote, "This is a really nice CD player!" Apart from being the sort of thing that might look good on colored construction paper, perhaps decorated with Elmer's Glue and sparkles, that simple observation doesn't embarrass me *too* much: Some combination of qualities—the Metronome's good sound, superb musicality, and fine ergonomics and styling—conspired to make me smile every time I used it. Considering also that the CD8 S is the rare recommendable CD player through which one can stream computer-audio files (why doesn't *every* high-end CD player offer this?), and that this *really nice* CD player sounds even nicer when used as a USB DAC, a very strong recommendation is in order. Which I here make. ■

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KALMAN RUBINSON

NAD Masters Series M22

POWER AMPLIFIER



In the January 2015 edition of “Music in the Round,” I reviewed NAD’s latest Masters Series preamplifier-processor and multichannel power amplifier, respectively the M17 (\$5499) and M27 (\$3999).¹ I was taken with both, but the M27 made a special impression. In many ways, it personified what a modern power amp should be: quiet, transparent, cool running, and compact. Its neat package of seven 180W channels inspired me to consider that stereo or mono versions of such a thing could supplant the ungainly monster amps I was using in my main system. So I asked NAD to send me not just one but *two* samples of their new two-channel power amplifier, the Masters Series M22 (\$2999): Although this is a review of a stereo amplifier, I did want to have my front three speakers identically voiced.

Description

The Masters Series M22 is based on a version of Hypex Electronics’ model NC400 NCore amplifier module that

The M22 is a pulse-width-modulating amplifier that’s DC-coupled from end to end.

has been customized for NAD. Fundamentally, the M22 is a pulse-width-modulating (PWM) amplifier that’s DC-coupled from end to end, lacking even an output-blocking relay. (The M22 uses much faster electronic protection instead.) DC protection also includes a useful 12dB/octave high-pass characteristic at 2Hz, not by means of a traditional DC servo but via a feed-forward design that derives a low-passed signal from the input and subtracts it from the main signal at a later stage. The NCore design makes use of negative feedback, and uses a modulator that was linearized using a mathematical analysis of oscillator behavior. The

¹ See www.stereophile.com/content/music-round-70.

SPECIFICATIONS

Description Two-channel, solid-state, class-D power amplifier. Inputs: 1 pair balanced (XLR), 1 pair single-ended (RCA). Outputs: 2 pairs multiway binding posts. Frequency response: 3Hz–30kHz, –3dB. Continuous output power at rated THD, 20Hz–20kHz, both channels driven: >250W (>24dBW, no load specified). IHF dynamic

power: 355W into 8 ohms, 640W into 4 ohms, 620W into 2 ohms. Clipping power at 1kHz, 0.1% THD: >300W into 8 ohms (24.77dBW). Peak output current, 1 ohm, 1ms: >50 amps. Input sensitivity: 1.6V. Input impedance: 17k ohms + 200pF (RCA), 200k ohms + 100pF (XLR). Voltage gain: 29dB. THD+noise, 20Hz–20kHz:

<0.003%. Signal/noise (A-weighted): >100dB (ref. 1W), >120dB (ref. rated power). Damping factor (8 ohms): >800 at 50Hz, 1kHz. **Dimensions** (including feet and connectors) 17 1/8" (435mm) W by 4 1/16" (103mm) H by 14 15/16" (379mm) D. Weight: 19.6 lbs (8.9kg) net, 33.1 lbs (15kg) shipping.

Serial numbers of units reviewed H47M220123, H48M2201286.

Price \$2999. Approximate number of dealers: 150.

Manufacturer NAD Electronics International, 633 Granite Court, Pickering, Ontario L1W 3K1, Canada. Tel: (905) 831-6555. Fax: (905) 831-6936. Web: www.nadelectronics.com.

distortion and output impedance remain low throughout the audioband.

The M22's specifications are impressive, particularly in terms of continuous power output and distortion—250W into 8 ohms, both channels driven, and <0.003%, respectively—even without reference to the amplifier's weight of only 19.6 lbs. But that's not uncommon these days. What struck me is that, aside from the power-output specs, which are correlated with Ohm's law, none of the specs are differentiated by load impedance, which counters standard practice. Given that speaker loads are complex, consisting of resistive and reactive elements, load-invariant amps are likely to suit a wider range of speakers, and perform better across the audioband with each of them. And as I expected, the M22 performed well with my two sets of quite different speakers. But I'm getting ahead of myself...

The M22s arrived in NAD's standard packaging for its Masters Series models: outer and inner cardboard boxes and, inside the inner box, upper and lower blocks of some soft-covered material, formed to fit the M22's contours. This unknown material is much more dense and reassuring than any comparable packing substance I've seen. (Note that the M22's shipping weight is more than half again that of the amp itself.) Cutouts in the forms accommodate boxes for the M22's accessories: a power cord, a leather-cased USB drive filled with documentation, and four magnetic footers. The amp itself, as it emerged from its velour bag, felt more like a solid block of sculpted metal than an electronic device. I put the M22 in place, slipped the footers under its generously sized pointy feet, and appreciated that the latter's magnetism kept them in place even when I moved the amp around.

Setup and Operation

Connections were made with AudioQuest Earth XLR interconnects, AudioQuest Oak speaker cables, and a Kubala-Sosna Emotion AC cord. I flipped the rear power switch on, and the NAD logo on the M22's front panel glowed amber to indicate that the amp was now in standby mode. To turn

the M22 on and play music required that I gently—but not too gently—stroke the soft-touch standby switch that's recessed on the amp's top front edge. (I'd had difficulty getting the same switch on the M27 to work consistently well, and now took greater care.) My first touch was evidently too light, so I repeated it; the M22 remained off. More trials taught me that a light touch was fine, and that the M22 took a few seconds to respond: Pressing the switch again too soon only kept it in standby. (Without tactile feedback from the switch, and with a delayed response from the amp, why would users not hit it again? And why use such a nonstandard, no-feedback switch in place of something simpler?)

That's not my only gripe about the M22's switching. Apparently catering to EU demands, the M22 arrives configured to switch itself into standby after about 30

The M22 performed well with my two sets of quite different speakers.

minutes without an audio signal. That's an effective way to conserve energy, but, unlike many US amps, the M22 can't then detect the reappearance of a signal and switch itself out of standby—you have to switch it back on again manually. Unless you're a real power miser, I recommend following the simple steps outlined in the manual to deactivate this function.

Okay. Start again. I flipped the rear power switch on. The NAD logo glowed amber to indicate standby mode. A gentle stroke of the standby switch and—after a short wait—the music came alive.

Listening

Bowers & Wilkins' 800 Diamond speakers (unofficially, the D2 versions) and I have cohabited in my Manhattan listening room for some years now; I know them well enough that even small changes in my system's sound are easily perceived—sometimes vividly so. Compared to my experience with the other three amps I had on hand (details to fol-

MEASUREMENTS

I performed a full set of measurements on the Masters Series M22, using my Audio Precision SYS2722 system (see the January

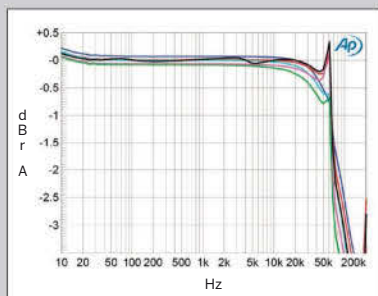


Fig.1 NAD M22, balanced frequency response at 2.83V into: simulated loudspeaker load (gray), 8 ohms (left channel blue, right, red), 4 ohms (left cyan, right magenta), 2 ohms (green) (0.5dB/vertical div.).

2008 "As We See It," www.stereophile.com/content/measurements-maps-precision). As the M22 has a class-D output stage, for almost all measurements I used an Audio Precision AUX-0025 passive low-pass filter ahead of the analyzer, which eliminates noise above 200kHz.

The M22's voltage gain into 8 ohms measured 28.9dB from both its balanced and unbalanced inputs, and both inputs preserved absolute polarity (ie, were non-inverting). The unbalanced input impedance measured 23k ohms at 20Hz, dropping to 18k ohms at 1kHz and 10k ohms at 20kHz. The balanced input impedance was a consistent 75k ohms at low and middle frequencies, dropping inconsequentially to 70k ohms at the top of the audioband.

The output impedance was very low for an amplifier with a class-D output stage: 0.05 ohm at 20Hz, 0.03 ohm at 1kHz, and 0.07 ohm at 20kHz (all figures include the series resistance of 10' of speaker cable). As a result, the modulation of the amplifier's frequency response by the Ohm's law interaction between this impedance and that of our standard simulated loudspeaker¹ was just ± 0.05 dB (fig.1, gray trace), and the audioband response didn't change as a pure resistive load dropped from 8 ohms (blue and red traces) to 2 ohms (green). This graph was taken without the AP low-pass filter; a sharply defined peak is visible at 60kHz and is most developed into

¹ See www.stereophile.com/content/real-life-measurements-page-2.



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low), the M22 immediately conjured a big, wide soundstage populated with colorful instruments and voices. Individual sounds were natural and balanced, and not conflated with the surrounding ambience. Images, too, were stable. Moreover, I found it more than a bit uncanny to open my eyes and see that only this one little box was powering two quite large speakers and filling my room with the San Francisco Symphony and Chorus (led by Michael Tilson Thomas), soprano Isabel Bayrakdarian and mezzo Lorraine Hunt Lieberson, and the pipe organ of Davies Hall, in Mahler's Symphony 2, *Resurrection* (2 SACD/CDs, SFSO Media 821936-0006-2), all at full cry: >100dB spl! Obviously, the M22's compactness need not earn it any special treatment in evaluations of its sound.

I then turned to 2L's high-resolution recording of "Come Away, Death," from Gerald Finzi's song cycle on Shakespearean texts, *Let Us Garlands Bring*, to hear the voice of mezzo-soprano Marianne Beate Kielland, the piano of Sergei Osadchuk, and their acoustic and musical relationships (free 24-bit/192kHz PCM download from SACD/

I found it more than a bit uncanny to open my eyes and see that only this one little box was powering two quite large speakers

CD, 2L 2L-064-SACD). Through the NAD M22, Kielland's voice was pure and cleanly delineated, with a notable presence in the room. Osadchuk's piano stood apart from Kielland, a bit farther from me, but with requisite body and detail. Together, they sounded as if recorded in a fairly large space with a moderate amount of reverberation that never blurred the music—a little more present than through some other amplifiers.

Satisfying as this was, just two performers recorded with a moderate amount of ambience was not going to reveal much about soundstage size, width, or depth. For that, one turns to larger ensembles with lots of voices, such as the aforementioned Mahler symphony. Even listening to only

measurements, continued

8 ohms. This ultrasonic peak results in a small degree of critically damped overshoot on the leading edges of a 10kHz squarewave (fig.2).

Channel separation was superb, at >100dB in both directions below 2kHz, and still 88dB at 20kHz. Without the AP low-pass filter and no audio signal, around 330mV of RF noise was present at the M22's output, with a center

frequency of 446kHz.² The unweighted signal/noise ratio, ref.2.83V into 8 ohms and measured with the NAD's unbalanced input shorted to ground, was 72.9dB left and 70.0dB right, these figures improving respectively to 99.6 and 99.1dB when the measurement bandwidth was restricted to the audioband, and to 102.4 and 101.9dB when A-weighted. This is superb

performance, but the slightly lower ratios in the right channel are due to a very small amount of power-supply contamination (fig.3). As all these spurious are 120dB below the level of a 1W signal, they are inconsequential.

² Unlike the Spec RPA-W7EX Real-Sound, which is also reviewed this month and also uses a class-D output stage, the M22 didn't interfere with FM radio reception in my test lab.

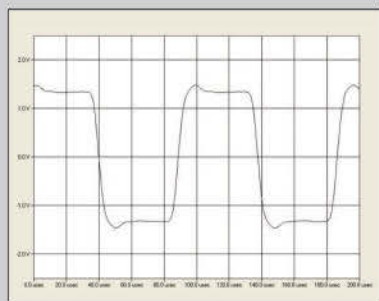


Fig.2 NAD M22, small-signal, 10kHz squarewave into 8 ohms.

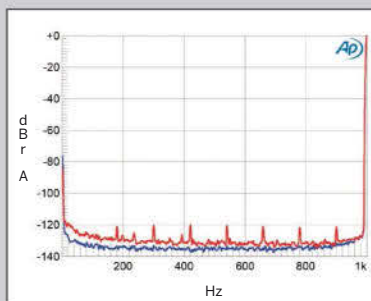


Fig.3 NAD M22, spectrum of 1kHz sinewave, DC-1kHz, at 1W into 8 ohms (linear frequency scale).

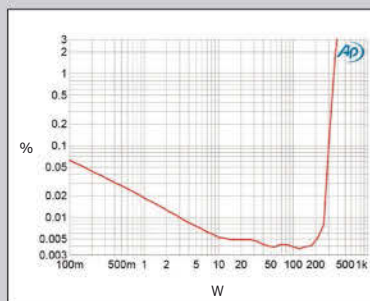


Fig.4 NAD M22, both channels driven, distortion (%) vs 1kHz continuous output power into 8 ohms.

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the two-channel DSD tracks of the *Resurrection*, I could easily discern the locations of solo singers, instruments, and chorus, beginning at the plane described by the speakers' front baffles and receding in ranks from there. Admittedly, the distance from that plane to the back of the stage didn't seem as deep as I've experienced with this recording and other amps—but then again, I can't measure those depths, or compare my perception of them to the live event. Nonetheless, I could clearly visualize all the movement and other shenanigans artfully devised by Gregorio Paniagua for his and Atrium Musicae de Madrid's *La Folia de la Spagna* (SACD, Harmonia Mundi HMC 801050) as they popped up or scurried around the soundstage.

Spectral balance via the M22 was natural, characterized by a notably full but taut and extended bass with plenty of slam, a balanced midrange with distinct presence, and transparent, detailed treble with nary a glint of sharpness. Consequently, pop and rock recordings had impact and snap. Dire Straits' eponymous first album (SACD/CD, Universal Japan UIGY-9634) sounded fresh, with impulsive bass beats and an almost in-your-face presence that, despite its studio genesis, gripped as if it were live. Despite this 1978 recording's greater presence and clarity through the M22, tape hiss was smooth and unobtrusive.

More modern stereo recordings, such as Sara K.'s *Hell or High Water* (SACD/CD, Stockfisch SFR 357.4039.2), lacked for nothing other than, perhaps, the deeper stage audible from this disc's multichannel tracks. That was not at all surprising—and when I later listened to those multichannel tracks with my three front speakers, powered by both M22 review samples, even that minor issue evaporated.

I also took an M22 up to Connecticut, where, in my weekend system, it drove a pair of Monitor Audio Silver 8 speakers with equally satisfying results. Again the

soundstage was spacious and detailed, if a bit less deep than I prefer. Reinstalling the Bryston 9BSST2 power amp resident there restored that depth. On the other hand, the M22 didn't quibble with the Silver 8s, as had the identically priced Benchmark Music Systems AHB2 that I reviewed in November 2015,² and there were no shifts in spectral balance. In fact, the M22 offered a sound that was barely more muscular than but otherwise identical to that of the M27.

Bridging

Back in Manhattan, after listening with satisfaction to the M22 driving the stereo pair of B&W 800 Diamonds, I decided to act on an evil thought from a while back. I asked NAD's Greg Stidsen, "Is it possible to bridge the M22

The M22 immediately conjured a big, wide soundstage.

and make it into a hugely powerful but reasonably priced compact monoblock?" His reply: "Because the M22 uses a fully balanced architecture, all you need are a pair of XLR Y-cords . . . the right channel positive becomes the mono + speaker connection and the left channel positive becomes the - speaker connection." Sure enough, packed with the second M22 were a pair of just such Y-cords and a note: "You now have a fully balanced dual-mono system with 600W per channel (into 8 ohms) continuous power and about 1,000W IHF dynamic power. Make sure your speakers are up to the task!"

The B&W 800 Diamonds' recommended amplifier power is 50–1000W into 8 ohms on unclipped program;

2 See www.stereophile.com/content/benchmark-media-systems-ahb2-power-amplifier.

measurements, continued

Fig.4 plots how the percentage of total harmonic distortion plus noise in the M22's output changed with power into 8 ohms with both channels driven. NAD usually specifies maximum power in terms of short-term delivery,³ but for the M22 quotes a power of >300Wpc into 8 ohms (>24.77dBW) at 0.1% THD+N with both channels driven. Fig.4 indicates that the THD+N reaches 1% (our usual definition of

clipping) at 340Wpc into 8 ohms (25.3dBW). Fig.5 shows that the M22 clips at 400Wpc into 4 ohms with both channels continuously driven (23dBW), while with just one channel driven (fig.6), the amplifier clips at 570W (24.55dBW). Even into 2 ohms, the NAD M22 managed to output 700W (22.4dBW) with just one channel driven.

With the M22's very low level of

noise, I had to test how its THD+N percentage changed with frequency at a very high level, 28.3V (equivalent to 100W into 8 ohms, 200W into 4 ohms, or 400W into 2 ohms), to be sure I was looking at true distortion. Even so, the distortion remained very low and uniform with frequency, with a small rise in the top octave (fig.7). That

3 See www.stereophile.com/asweseeit/489/index.html.

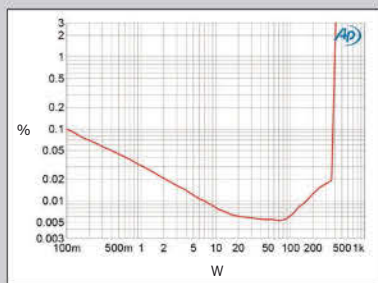


Fig.5 NAD M22, both channels driven, distortion (%) vs 1kHz continuous output power into 4 ohms.

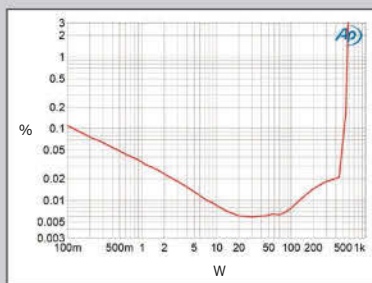


Fig.6 NAD M22, one channel driven, distortion (%) vs 1kHz continuous output power into 4 ohms.

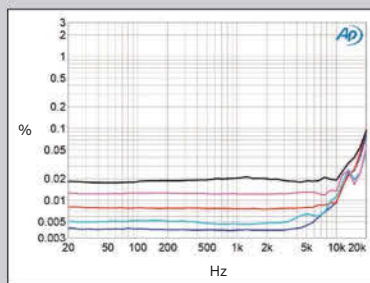


Fig.7 NAD M22, THD+N (%) vs frequency at 28V into: 8 ohms (left channel blue, right red), 4 ohms (left cyan, right magenta), 2 ohms (left, gray).



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they were up to it, but my ears were not. With the single M22, I had no problem playing the 800 Diamonds as loudly as I could enjoy. In the brief moments I could tolerate a bit more, I detected a glazing-over of the choral voices in the Finale of Mahler's *Resurrection*. Was it just my ears overloading? No, because with the bridged M22 minimonsters, the chorus sounded pristine—until my ears and my neighbors cried for mercy. That tells me that I could live happily with a single M22; others, with more maniacal demands, might see a great opportunity for a bridged pair.

Comparisons

Direct stereo comparisons of the M22 with the other amps revealed two issues in the NAD's sound: The soundstage was slightly shallower *and* it seemed a bit closer to the listening position. I heard little to distinguish the M22 from Parasound's Halo A 31 except that the NAD lacked a tiny bit of warmth and soundstage depth. Those same differences were greater with McIntosh Laboratory's MC-303, but even so, saying which was more accurate will entirely depend on the choice and placement of speakers and the room's acoustic, and even more on your taste in sound. The Benchmark AHB2 set itself apart from the other three amps with its copious soundstage depth and a slightly more distant presentation, but while I felt an abiding sense of its accuracy and neutrality, it failed to be as lively or exciting as the NAD.

It is an outstanding amplifier in every way.

Conclusions

Overall, NAD's Masters Series M22 power amplifier acquitted itself with distinction. Despite its small size, it has all the wallop necessary for staggering volume levels, and, if necessary, can be bridged to meet even more outside demands. At \$3000, the M22 is more than fair value in view of its compact size, excellent build quality, a tolerance

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Digital Sources Oppo BDP-105 universal BD player; Baetis XR2 PC-based music server; exaSound e28, Merging Technologies NADAC Multichannel-8 D/A processors; QNAP TS569L NAS.

Preamplifier Audio Research MP1.

Power Amplifiers Benchmark Media Systems AHB2, McIntosh Laboratory MC303, Parasound Halo A 31.

Loudspeakers Bowers & Wilkins 800 Diamond.

Cables Digital: AudioQuest Vodka (HDMI) & Carbon (USB), van den Hul Flat 180 (HDMI). Interconnect: AudioQuest Earth balanced, Kubala-Sosna Anticipation (RCA/XLR). Speaker: AudioQuest Oak biwire. AC: AudioQuest NRG-10, JPS Aluminata, Kubala-Sosna Emotion.

Accessories CyberPower 850PFCLCD AC filter (supplied with Baetis server), Environmental Potentials EP-2450 power conditioner.

CONNECTICUT SYSTEM

Digital Sources Oppo BDP-103 universal BD player; Apple Mac mini server running Boot Camped Windows 7, JRiver Media Center; miniDSP U-DAC8 DAC; UpTone Audio USB Regen USB repeater QNAP TS569LNAS.

Preamplifier-Processor Marantz AV8802a.

Power Amplifier Bryston 9BSST2.

Loudspeakers Monitor Audio Silver 8.

Cables Interconnect: AudioQuest Vodka (HDMI), Kubala-Sosna Anticipation (RCA) & Fascination (XLR). Speaker: Kubala-Sosna Anticipation & Fascination. AC: Kubala-Sosna Emotion. — **Kalman Rubinson**

for driving difficult loads, and, most of all, its transparent sound. It is an outstanding amplifier in every way, and I could happily live with it. ■

measurements, continued

the distortion waveform at this power level was primarily the subjectively innocuous third harmonic (fig.8) was confirmed by spectral analysis (fig.9). Testing the M22 at very high power with an equal mix of 19 and 20kHz

tones (fig.10) showed that the second-order intermodulation product at 1kHz lay close to -110dB (0.0003%), with the higher-order products at 18 and 21kHz higher in the left channel (blue trace) than in the right (red). Even so,

at -82dB (0.012%), these are of no concern.

NAD's Masters Series M22 amplifier measures extraordinarily well. It is the very model of a modern class-D amplifier! — **John Atkinson**

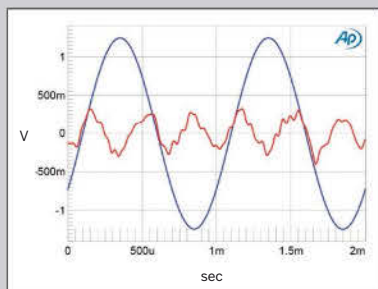


Fig.8 NAD M22, 1kHz waveform at 100W into 8 ohms, 0.0039% THD+N (blue); distortion and noise waveform with fundamental notched out (red, not to scale).

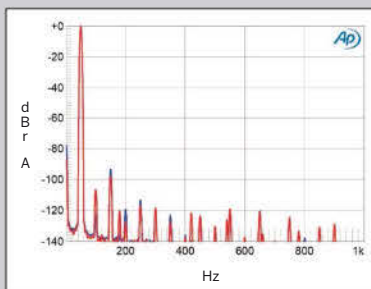


Fig.9 NAD M22, spectrum of 50Hz sine wave, DC-1kHz, at 200W into 4 ohms (linear frequency scale).

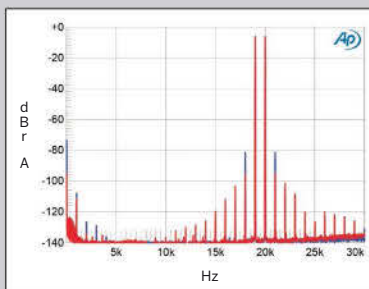


Fig.10 NAD M22, HF intermodulation spectrum, DC-24kHz, 19+20kHz at 200W peak into 4 ohms (linear frequency scale).

HERB REICHERT

Moon by Simaudio Neo 340i

INTEGRATED AMPLIFIER



August 26, 1944: The liberation of Paris. Imagine ranks of tattered Canadian soldiers marching past the Moulin Rouge à Paris. The voice of Édith Piaf singing “Où sont-ils, mes petits copains?” (Where are my boyfriends?). Maurice Chevalier crooning “Ça sent si bon la France” (It smells so good in France). A Canadian army tank with the words *Kaput* and *Finito* painted in white above the word *Montréal*, motoring past the Eiffel Tower. Remember the fresh, celebratory taste of fine Champagne.

This was the place, the mood, the reverie with which I began my examination of Simaudio’s Moon Neo 340i integrated amplifier. Why? Because Canada’s contributions to the Allied Forces and to perfectionist audio are underappreciated. Because French is the official language of Boucherville, Quebec, where Simaudio Ltd. has its factory. And because Paris and Canada are two of the places I have most visited, most explored, and most loved—in real life, in memories, and in dreams.

The first song I remember playing through the Moon Neo 340i was “Paris,” sung by Piaf on *Edith Piaf* (LP, EMI/

It took my mind immediately to Montmartre.

Music for Pleasure MFP 5046). The sound of the barrel organ and accordion accompanying The Little Sparrow seemed so tangible and direct that it took my mind immediately to Montmartre: to cobblestones, dancing poodles, and organ grinders. Even before Piaf began singing, I recognized the Neo 340i’s exceptional ability to dig straight through to the microphone(s) and recording venue. I knew immediately that listening to the Neo would be like drinking Bollinger Grande Année Brut 2002 (\$120/750ml).

Along with the Neo, I was using a Pioneer PLX-1000 turntable with Ortofon 2M Black cartridge, and Magneplan .7 loudspeakers. When *la grande* Piaf whispered into the mike as a drum *tap-tap-tapped* in the distance behind her, I locked in completely: In my mind, the dark space between the Édith and the drum was charged—with dim light, dust, and smoke. I could sense the height of the drum from the hard floor.

SPECIFICATIONS

Description Solid-state integrated amplifier. Analog inputs: 1 XLR, 4 RCA, 3.5mm Media Player. Optional digital inputs: optical, 2 coaxial, USB. Optional phono inputs: 47k ohms input impedance (moving-magnet), 100 ohms or 47k ohms input impedance (moving-coil). Analog

outputs: fixed, variable (both RCA). 1 pair speaker outputs. Headphone output: 0.25" phone plug. Rated output power: 100Wpc into 8 ohms (20dBW), 200Wpc into 4 ohms (17dBW).

Dimensions 16.7" (429mm) W by 3.5" (89mm) H by 14.7" (376mm) D. Shipping

weight: 28.6 lbs (13kg).

Finishes Black standard; Silver, Two-Tone available via special order.

Serial number of unit reviewed 07022324. Price \$4950. Options: MM/MC phono stage, \$400; DSD DAC, \$900; D3PX edition (all options included), \$5800.

Approximate number of dealers: 80. Warranty: 10 years.

Manufacturer Simaudio Ltd., 1345 Newton Road, Boucherville, Quebec J4B 5H2, Canada. Tel: (450) 449-2212. US: Simaudio Ltd., 2002 Ridge Road, Champlain, NY 12919. Web: www.simaudio.com.

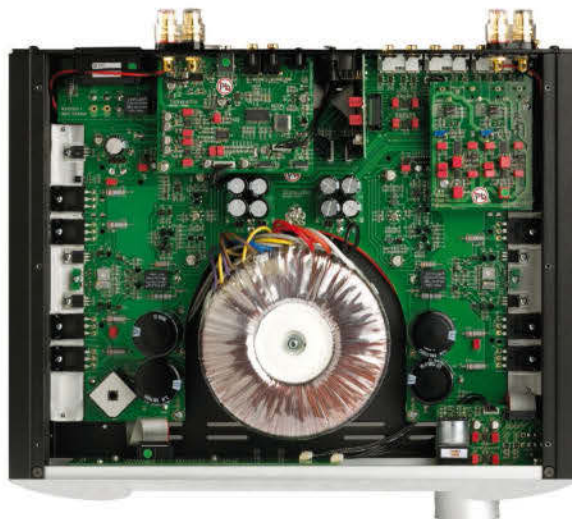
I was listening to a performance recorded in 1949!

That, my dear readers, is the nature of this vivid French studio recording, the diminutive French songbird, and the sparkling *brut* clarity provided by the Moon Neo 340i driving the Magnepan .7s.

Description

One reason the Magnepan .7s played so well with the Simaudio integrated is that Magnepan speakers prefer amplifiers that double their rated output into 8 ohms when presented with a 4-ohm load—as does the Neo 340i, which is specified as producing 100Wpc into 8 ohms or 200Wpc into 4 ohms. The Maggies' infamous hunger for current was satisfied by the 340i's ability to continuously deliver up to 30V at 12 amps, with 22-amp peaks. The Neo 340i uses four bipolar transistors per channel, operated in class-A for the first 5W, and in class-AB for all subsequent joules per second.

I am a slow-working audio reporter. I need months—



Inside the Neo 340i: Note the four bipolar output transistors each side.

sometimes a year—to get a proper feel for a product. This is especially true with integrated amplifiers, because today's models can be heavily laden with features, each of which takes time to appreciate. The Moon Neo 340i has been in and out of my system for more than a year—so long that I had to upgrade its DAC and firmware to finish this review. The basic 340i, without phono stage or DAC module, can be had for \$4700. Later, you can add a moving-magnet/moving-coil phono stage (\$400) and/or a DSD DAC (\$900). That's \$6250 for *Lune à la carte*.

Or you can buy a 340i that includes all of these options—Simaudio calls the package

the D3PX—for \$5800. Simaudio sent me the D3PX edition.

The Moon Neo 340i D3PX is a textbook example of a contemporary, top-quality, full-featured integrated amplifier. On its backside are four analog RCA inputs, one of

MEASUREMENTS

I performed a full set of measurements on the Simaudio Moon Neo 340i using my Audio Precision SYS2722 system (see the January 2008 “As We See It,” www.stereophile.com/content/measurements-maps-precision). I looked first at the behavior of the optional digital-input board, using either S/PDIF data sourced from the Audio Precision via optical or coaxial links, or USB data from my Mac Book Pro running on battery power. To avoid overloading the power-amplifier section, I switched the loudspeakers off and looked at the signals at the fixed line-output jacks.

The TosLink input locked to data with sample rates up to 96kHz, the coaxial inputs to data sampled at all rates up to 192kHz. Apple's AudioMIDI app revealed that the Neo 340i operated with 32-bit integer data at all sample rates from 32 to 384kHz. The USB Prober utility identified the Simaudio as the “MOON USB DSD HD Audio” from “Simaudio Ltd.,” and confirmed that its USB input operated in the optimal isochronous asynchronous mode.

The digital input preserved absolute polarity (*ie*, was non-inverting) at both the line and speaker outputs. A 1kHz tone at 0dBFS gave rise to a level of

1.89V at the line output, though with the volume control set to its maximum, digital data at -12dBFS resulted in a level just below clipping. The impulse response with 44.1kHz data (not shown) revealed that the Neo 340i's reconstruction filter was a conventional FIR type with a sharp rolloff above 20kHz with 44.1kHz data (fig.1, red and magenta traces). The aliasing product of a full-scale tone at 19.1kHz at 25kHz (blue and cyan traces) is suppressed by 85dB, and the harmonics of the fundamental tone are all very low in level.

Fig.2 shows the digital module's fre-

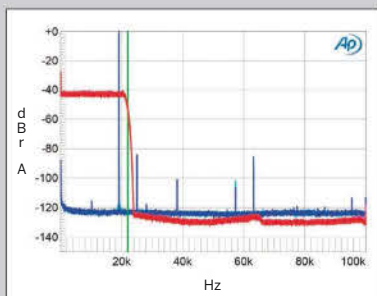


Fig.1 Simaudio Moon Neo 340i, S/PDIF input, wideband spectrum of white noise at -4dBFS (left channel red, right magenta) and 19.1kHz tone at 0dBFS (left blue, right cyan), with data sampled at 44.1kHz (20dB/vertical div.).

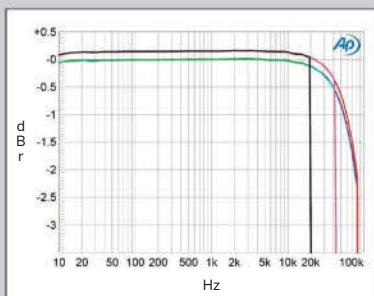


Fig.2 Simaudio Moon Neo 340i, S/PDIF input, frequency response at -12dBFS into 100k ohms with data sampled at: 44.1kHz (left channel gray, right green), 96kHz (left cyan, right magenta), 192kHz (left blue, right red) (0.5dB/vertical div.).

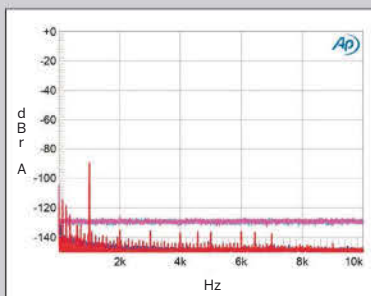


Fig.3 Simaudio Moon Neo 340i, S/PDIF input, 44.1kHz data, spectrum with noise and spurs of dithered 1kHz tone at -90dBFS with: 16-bit data (left channel cyan, right magenta), 24-bit data (left blue, right red) (20dB/vertical div.).



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them dedicated to the phono board, and four digital inputs: TosLink, two S/PDIF RCAs, and USB. There are two line-level (RCA) analog outputs: one fixed, the other variable. Standard features on all Neo 340i amps include: SimLink, to provide two-way communication among various Simaudio Moon components, including the MiND streamer; a 12V trigger; a RS-232 port for custom installation, bidirectional feedback, and firmware updates; and an IR port for external control.

On the Neo 340i's classy-looking signature faceplate are a 1/4" headphone jack and a 1/8" Media Player (MP) input jack. Just above those are two buttons: Spk Off, which turns off the output signal to the speakers when you're using headphones; and Mute, which switches off the output signal to everything, including the fixed and variable RCA outputs.

To the left of the central, red-lit display is a cluster of five buttons. At the top is Standby, which disengages the input section from the remainder of the 340i's circuitry, though all circuits remain powered up. Just below that are buttons to engage the MP input and to turn the display off and on, and below those are two more, for toggling between input options.

Page 14 of the Neo 340i's manual is dedicated to the operation of its remote control. At the bottom, it states: "NOTE: The buttons labeled <BAL> don't affect the operation of the 340i." Immediately, I knew: Simaudio has done this only to annoy me. *Boooo! Hiss! Grrr!*

With speakers: Magnepan .7

The more I use the Magnepan .7s (\$1400/pair), the more I love them.¹ Their extraordinary imaging, sweetness of tone, and down-to-earth naturalness are the antitheses of all things mechanical and "hi-fi." I believe that they are among the best speakers available today, at any price. The planar-magnetic, flat-panel .7s do what stand-mounted box speakers don't: They move copious amounts of air. Each speaker has 400 square inches of driving surface—eight times more than an 8" woofer, and more than 16 times as much as a 5.5" mid/woofer like the one in KEF's LS50. Moving that much air energizes a small room like mine in a way that lets me really *feel* the sound. Bass may not go very low, but it's present in the room with me, touching me physically. Little boxes can give the *idea* of bass—a simulacrum—but never bass that touches your skin. The Magnepan sound is always more tactile, more of the senses, than what I experience with little box speakers, whose sound is always more of the mind.

When I used the Moon and the Maggies to listen to my swamp-blues buddy Slim Harpo sing "I'm a King Bee" and "Rainin' in My Heart," from his first album, *Slim Harpo Sings "Raining in My Heart..."* (LP, Excello LP-8003), my room felt awash with rich, pulsing molecules of bass and midrange energy. The high frequencies were vaporous, but precise and

¹ See www.stereophile.com/content/gramophone-dreams-5.

measurements, continued

quency response with data sampled at 44.1, 96, and 192kHz. There is a slight imbalance between the channels, but the responses follow the same basic shape, with a sharp rolloff just below half of each sample rate. With 384kHz data, the response followed the same shape as the 192kHz traces, but with extended output above 96kHz, reaching -10dB at 160kHz. Channel separation via the digital inputs was excellent, at 105dB below 1kHz and still 85dB at the top of the audioband. Noise levels were also low for digital input signals, so that increasing the bit depth from 16 to 24 with dithered data representing a 1kHz tone at -90dBFS dropped

the noise floor by almost 20dB (fig.3), implying resolution of at least 19 bits. Some low-level, supply-related spurs are visible in this graph, but overall the noise floor is sufficiently low that the Simaudio's reproduction of an undithered 16-bit sinewave at exactly -90.31dBFS was essentially perfect (fig.4). With undithered 24-bit data, the result was a well-formed sinewave (not shown).

As implied by the blue and cyan traces in fig.1, the Simaudio's digital module produced very low levels of harmonic distortion, with the third

harmonic the highest in level, at just -106dB (0.0005%). Intermodulation distortion was similarly low, and the digital module offered superb rejection of word-clock jitter via both its TosLink (fig.5) and USB inputs.

The optional phono stage offered 39.65dB of gain measured at the fixed line-output jacks when set to MM (moving magnet), 57.65dB of gain when set to MC (moving coil). With the volume control set to its maximum and the phono stage set to MC, a 1kHz tone at 1mV resulted in a level of 4.56V at the speaker outputs; ie, a total gain of 73.2dB. The phono module preserved absolute polarity in both

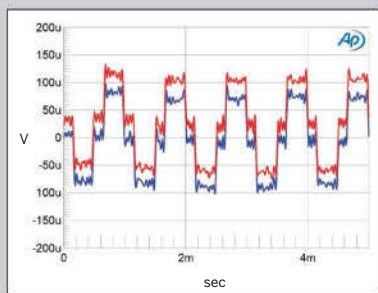


Fig.4 Simaudio Moon Neo 340i, S/PDIF input, waveform of undithered 1kHz sinewave at -90.31dBFS, 16-bit data (left channel blue, right red).

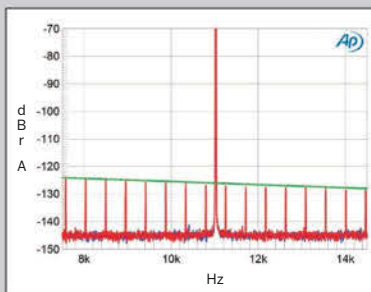


Fig.5 Simaudio Moon Neo 340i, S/PDIF input, high-resolution jitter spectrum of analog output signal, 11.025kHz at -6dBFS, sampled at 44.1kHz with LSB toggled at 229Hz: 16-bit data (left channel blue, right red). Center frequency of trace, 11.025kHz; frequency range, ± 3.5 kHz.

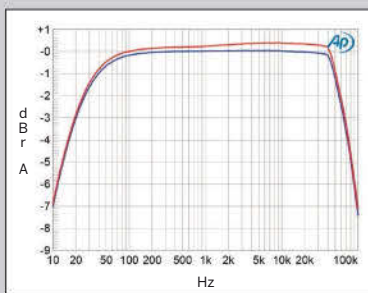


Fig.6 Simaudio Moon Neo 340i, phono input, response with RIAA correction (left channel blue, right red) (1dB/vertical div.).

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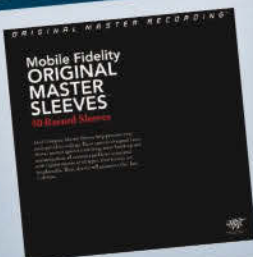
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For every day dustbusting I wouldn't kick Audioquest record brush off my vinyl either. - MICHAEL FREMER, Stereophile

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wonderful. The Simaudio's apparent speed and transparency tamed the Magnepans' inherent sweetness to the point where the .7s began to sound like the high-resolution transducers they are. The reverb added to Harpo's seductive voice in this 1961 recording had an enticing presence of its own. Music emerged with such clarity and ease that I became relaxed and happy. This deeply satisfying amp-speaker pairing reproduced all types of music with charm and authority.

With speakers: Technics SB-C700

The fast, neutral sound of the Moon Neo 340i was enhanced by the low-distortion naturalness of Technics' SB-C700 stand-mounted minimonitors that I reviewed in January. I played Claude Debussy playing Claude Debussy, with soprano Mary Garden, from *Claude Debussy: The Composer as Pianist*: 18 selections recorded for M. Welte & Sons in Paris, in 1904 and 1913 (CD, Pierian 0001). I have revered this disc, and Debussy's unusual pianism, ever since its release, in 2000. The Moon and Technics have now made it my new religion. This supremely crafted Welte-Mignon piano-roll recording was made using a finely tuned and restored Feurich-Welte piano playing laboriously rerecorded rolls from the collection of Dick and Helena Simonton, recorded in stereo using two Neumann KM 83 microphones. The results of all this love and labor are a stupefyingly real AAD recording that appears to capture every nuance of the French master's touch, pedaling, and expression. Debussy's

deliberateness, hesitancy, and eccentric tempos in his *La cathédrale engloutie* seem more flesh-and-blood soulful than most pianists now living can muster on their best day at the keyboard. The Welte-Mignon recording piano even captured Debussy's *half-pedaling*!

This was another deeply satisfying combination of amplifier and speakers.

Phono Stage: Moving-magnet

If I could revive Josef Hofmann or Ignace Jan Paderewski, how close to their pianos would I like to sit? After a lifetime of wondering, I have concluded that I like close: front-row close. I want to see the pianist's knees move as he works the pedals. I want to hear the felts and keys returning to rest. I enjoy the affective reality of the player working the whole instrument. Which is exactly what I experienced listening to and watching, from the second row, Keith Jarrett at Carnegie Hall. I was staring up at Jarrett's knees and the bottom of the soundboard. I watched his feet stomp from about 30' away. This intimacy let me experience his playing with my entire body. His wayward affectations drew me in much better than if I'd been sitting in a balcony box.

Listening at home, I desire that same intensity and artistic presence. Happily, I received a nice measure of it when listening to Jarrett's *Concerts Bregenz München* (3 LPs, ECM-3-1227). I couldn't see Jarrett's knees, but I could hear his head and voice moving above the keyboard. I could hear his shoes

measurements, continued

MM and MC modes, and the input impedance at 1kHz was 46k ohms at 1kHz when set to "47k," or 101 ohms when set to "100." The input impedance at the frequency extremes was not appreciably different from that at 1kHz. (For these measurements, the input capacitance was set to "OpF" for both modes.)

The RIAA error was very small (fig.6), though the right channel was very slightly higher in level than the left. Both channels featured a low-frequency response that was down by 3dB at 20Hz. Channel separation via the phono input was good, at >60dB, and the unweighted, wideband signal/noise ratios were also good, at 78dB

(MM, ref.1kHz at 5mV) and 61dB (MC, ref. 1kHz at 500 μ V), both measured with the input shorted. The A-weighted ratios were even better, at a respective 86.5 and 75.3dB. (All figures are the average of the two channels.)

At normal levels, the 340i's phono module offered very low levels of harmonic distortion and intermodulation distortion (fig.7). However, while the overload margins were very high at low and middle frequencies, at least 25dB (MM) and 29dB (MC), these dropped at 20kHz to just 7dB (MM) and 11dB (MC). (All figures referred to 1kHz at 5mV, MM, and 500 μ V, MC.)

The amplifier as a whole offered a moderate 35.2dB of gain at 1kHz into 8 ohms for both its balanced and unbalanced line-level inputs, and both sets of inputs preserved absolute polarity. While the balanced input impedance was high, at 44k ohms at all audio frequencies, the unbalanced input impedance was relatively low, at 7200 ohms at 20Hz and 1kHz, dropping to just 5200 ohms at 20kHz. (The input impedance was specified as 11k ohms in the online version of the manual, but 22k ohms in the printed manual that accompanied the review sample.) As a result, a tubed source with a high output impedance at low frequencies might sound a little lean.

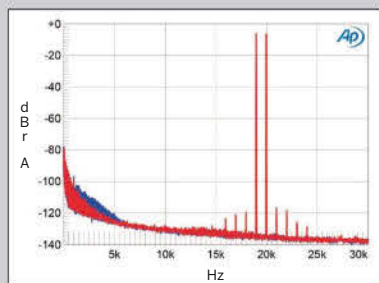


Fig.7 Simaudio Moon Neo 340i, phono input, HF intermodulation spectrum, DC-30kHz, 19+20kHz at 1V peak into 100k ohms (linear frequency scale).

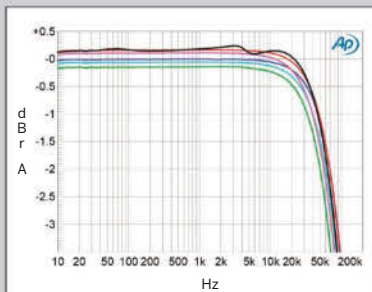


Fig.8 Simaudio Moon Neo 340i, unbalanced frequency response at 2.83V into: simulated loudspeaker load (gray), 8 ohms (left channel blue, right red), 4 ohms (left cyan, right magenta), 2 ohms (red) (0.5dB/vertical div.).

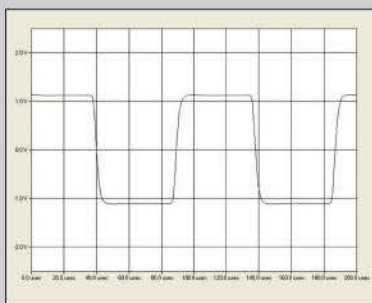


Fig.9 Simaudio Moon Neo 340i, small-signal, 10kHz squarewave into 8 ohms.

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on the pedals.

Vicissitudes of Power

The aspect of recorded music that is most affected by preamplifiers and power amplifiers is its *viscosity*—ie, how thick or thin or transparent the music sounds. This in turn affects grain, contrast structure, and, especially, musical *flow*. The perceived viscosity or plasticity of an audio amplifier's sound lies typically in its internal impedances, time constants, bandwidth, and voltage plus current capabilities. Musical viscosity also depends on the designer's choice of resistors, capacitors, regulators, and transformers.

I mention all this because it sounded to me that the Simaudio design team has made some sophisticated viscosity-oriented design choices that have resulted in audio products, like the Moon Neo 340i, of unique transparency and fluidity.

Phono Stage: Moving-coil

I change phono cartridges often. Therefore, I'm always happy when an integrated amplifier includes choices of gain

The Neo 340i rear panel, with the optional phono and digital modules.

(40 or 60dB) and loading (100 ohms or 47k ohms plus 0pF or 100pF), as does the Moon Neo 340i D3PX. Simaudio uses active circuitry—as opposed to transformers—for the extra gain.

Unlike most phono stages, in which choices of amplifier gain and cartridge loading are made with little switches or buttons, the Neo 340i's phono stage requires that you (or your dealer) remove the amp's top plate and reposition separate right- and left-channel jumper blocks for each choice. I know, it sounds tricky, maybe even dangerous—but it's not. It's simple, almost foolproof, and explained very clearly in the manual. The whole procedure took me less than 10 minutes, and its simplicity gave me the opportunity to experiment and be fickle.

Most important, the results were worth the effort: The



measurements, continued

The output impedance at the line-output jacks was a low 100 ohms at all audio frequencies. Measured at the speaker outputs, it was a very low 0.05 ohm at low and middle frequencies (including the series resistance of 10' of speaker cable), rising inconspicuously to 0.08 ohm at the top of the audioband. As a result, the modulation of the Neo 340i's frequency response by the Ohm's law interaction between this impedance and that of our standard simulated loudspeaker¹ was just ± 0.09 dB (fig.8, gray trace). The output was down by 3dB at a high 90kHz, meaning that a 10kHz squarewave was reproduced with short risetimes (fig.9), and there was no overshoot or ringing. The 340i's frequency response was the same at all volume-control settings

and for both balanced and unbalanced inputs.

Channel separation for the line-level inputs was an even 74dB R-L, but lower at high frequencies in the other direction. The unweighted, wideband S/N ratio, measured with the inputs shorted to ground but the volume control set to its maximum, was a modest 71.2dB ref. 2.83V into 8 ohms, improving to 87.4dB when the measurement bandwidth was limited to the audioband, and to 90.2dB when A-weighted. These figures were for the left channel; the right channel's ratios were all 2-3dB smaller, due to there being a higher level of spurious at 60Hz and its harmonics in that channel (fig.10). These ratios and graph were taken with an unbalanced input; with a balanced input, these

spurious were all up to 12dB higher in level, which I suspect is due to the fact that these inputs are carried on a small board connected to the main board with flying leads.

The Neo 340i's maximum power is specified as 100Wpc into 8 ohms (20dBW) or 200W into 4 ohms (17dBW). Figs. 11 and 12 reveal that, with both channels driven, the amplifier clipped at 130Wpc into 8 ohms (21.1dBW) and 200Wpc into 4 ohms, with low levels of distortion at output powers of a few tens of watts. To be sure I was looking at true distortion, I tested (fig.13) how the THD+noise percentage changed with frequency

¹ See www.stereophile.com/content/real-life-measurements-page-2.

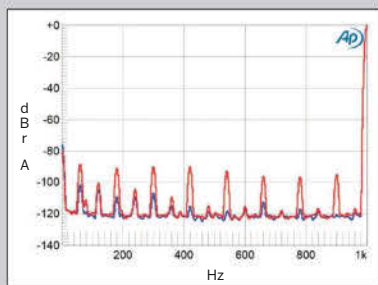


Fig.10 Simaudio Moon Neo 340i, unbalanced input, spectrum of 1kHz sine wave, DC-1kHz, at 1W into 8 ohms (linear frequency scale).

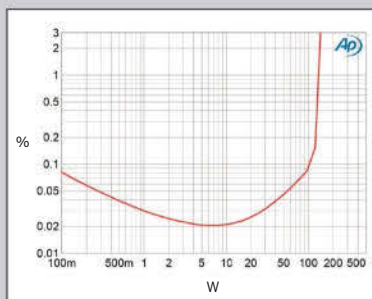


Fig.11 Simaudio Moon Neo 340i, THD+N (%) vs 1kHz continuous output power into 8 ohms.

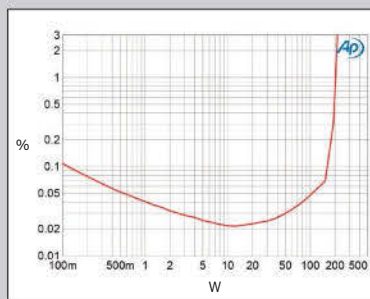


Fig.12 Simaudio Moon Neo 340i, THD+N (%) vs 1kHz continuous output power into 4 ohms.

*"The most significant audio product
I have ever hooked up to my system.
It was flawless."*



VAC Signature SE Preamplifier w/optional phono stage

Levels of detail resolution, ambience retrieval, air, and low-level dynamic articulation across the audioband that were nearly indistinguishable from a live performance.

The Signature SE produced an illusion of live musicians playing in an actual space better than any preamp I'd heard.

I'm not used to hearing this type of realistic reproduction from an audio component. I'm used to hearing it from a violinist sitting 10' away.

...with the Signature SE, I was struck by how the dynamic attack, the timbral envelope, and the decays of the notes sounded more like a real grand piano than I'd ever heard with this recording.

The day I removed the Signature SE from my system, to send it on to John Atkinson to be measured, my wife came home from work, looked at the rearranged components on my rack, and said, "What? The preamp's gone?"

Robert J. Reina, Stereophile June 2015



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sound quality of the 340i's \$400 phono-stage option (less, of course, if it's ordered as part of the entire D3PX package) is so ridiculously good that I doubt most users will ever want further upgrades. If they do, Simaudio's Moon Evolution line offers three standalone phono stages, the 310LP (\$1800), 610LP (\$7500), and 810LP (\$13,000).

My only complaint: My Zu Denon DL-103 cartridge was not perfectly happy with the Neo 340i. The Zu's 40-ohm impedance plays more naturally and in a more relaxed manner into 470 or 1000 ohms than into either of the 340i's choices of 100 ohms or 47k ohms. Into 47k, the Zu was too uptight.

Meanwhile, the 6-ohm internal resistance of my Jasmine Turtle cartridge was more than happy with the Neo 340i's 100-ohm setting. It played stronger, cleaner, and with more detailed bass than it had with any other phono stage I have in the bunker. (My review of the Turtle moves slowly forward . . .)

DSD DAC

Last July, Simaudio introduced an upgrade for the Moon Neo 340i's DAC that improved on what I'd already felt was the 340i's strongest asset. My review sample's original

DAC was fast and sure, open and clear, with bass that played exactly as it should. But compared to my reference D/A converter—Halide's DAC HD (\$495), which always sounds warmly detailed, juicy, and alive—the Neo 340i's original DAC sounded a bit brisk and chilly, like a cloudless November day. The new DSD DAC demonstrated increases in neutrality and materiality, and felt a bit bolder, yet more at ease.

I believe strongly in the importance of high-end audio dealers. The future and quality of our sacred hobby rests squarely on their shoulders. If you buy an amp or speaker on the Internet and it sounds bad in your listening room, you have no one to blame but yourself. Worse, you have no one who cares, or wants to help you. But high-end audio salespersons are there to be exploited as teachers, oracles, lifestyle consultants—and maybe even friends.

I mention this because I did not feel confident in my ability to install the 340i's new DAC board and do the necessary firmware upgrade. So I took my review sample to the charming and knowledgeable Michael Toto, of New York's famous Stereo Exchange. The upgrade process began with his welcoming smile, included a lot of impassioned jabber about headphones, amps, and speakers, and ended with my satisfied grin and a handshake. Dealers rule!

measurements, continued

at 12.7V (equivalent to 20W into 8 ohms, 40W into 4 ohms, or 80W into 2 ohms). Other than into 2 ohms (gray trace), there was only a slight rise in THD toward the top of the audioband, and very little increase into lower impedances.

The distortion signature was predominantly the subjectively innocuous third harmonic (fig.14), though there was also some second harmonic about 12dB lower in level when the output power was 3dB below clipping into 4 ohms (fig.15), as well as some lower-level, higher-order harmonics and some supply-related spurious. When I tested the 340i with an equal mix of 19 and 20kHz tones at a level a few dB below visual clipping on an oscilloscope, the second-order intermodulation product at 1kHz lay at just -96dB (0.0015%), though the higher-order products at 18 and 21kHz lay at -74dB (fig.16).

Finally, looking at the headphone output, this offered the same maximum gain as the speaker outputs and was non-inverting. However, as its source impedance was a high 300 ohms, the headphone output should be regarded as utilitarian.

Overall, Simaudio's Moon Neo 340i offers excellent measured performance; I was particularly impressed by its affordably priced phono and digital modules. One point should be

noted, however: The 340i's heatsinking isn't adequate for sustained use at high powers. Before the testing, when I preconditioned the amplifier by running it at one-third power into 8 ohms with both channels driven—the worst case for an amplifier with a class-B or

-A/B output stage—its side-mounted heatsinks became too hot to touch after 30 minutes, measuring 160.6°F (71.6°C). Even the top panel was hot, at 111.6°F (41.1°C). This amplifier needs to be used in a well-ventilated location.

—John Atkinson

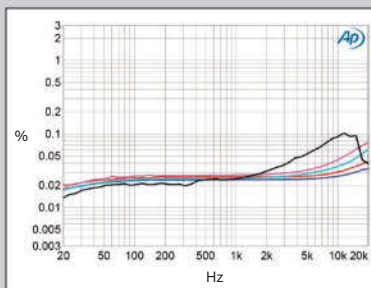


Fig.13 Simaudio Moon Neo 340i, THD+N (%) vs frequency at 12.7V into: 8 ohms (left channel blue, right red), 4 ohms (left cyan, right magenta), 2 ohms (left, gray).

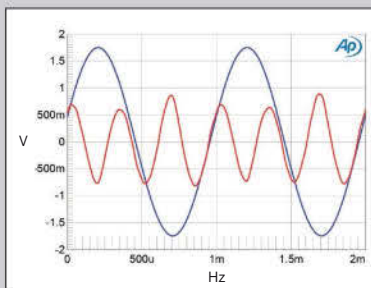


Fig.14 Simaudio Moon Neo 340i, 1kHz waveform at 50W into 8 ohms, 0.042% THD+N (blue); distortion and noise waveform with fundamental notched out (red, not to scale).

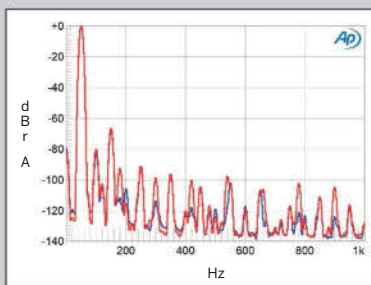


Fig.15 Simaudio Moon Neo 340i, spectrum of 50Hz sine wave, DC-1kHz, at 100W into 4 ohms (linear frequency scale).

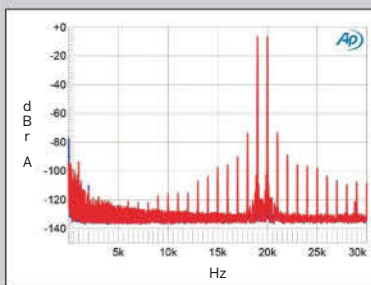


Fig.16 Simaudio Moon Neo 340i, HF intermodulation spectrum, DC-30kHz, 19+20kHz at 100W peak into 4 ohms (linear frequency scale).

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Headphones

Like a hooded monk with an inkwell, I spend my days sitting at a desk, writing and imagining. My hood is a pair of headphones—I listen to Tidal, and play my diverse collection of files downloaded from HDtracks. I enjoy the LSD intensity of listening through high-quality earspeakers. I find that headphones force my ADHD mind to focus—and remain focused—better than do speakers en l'air ouvert. For several months now, Simaudio's Moon Neo 230HAD headphone amplifier (\$1500 with DAC) has been firmly ensconced in my desktop reference system. While the 230HAD plays with a tighter, breathier, and punchier authority than the 340i's headphone output, the 340i exhibits a similar (but more softly-focused) clarity that flatters the female voice more than the male.

Through the 340i and AudioQuest NightHawk headphones, I'm now listening to "High on a Mountain," from the New Appalachians' *From the Mountaintop* (24-bit/192kHz, Chesky). This bluegrass standard by Ola Belle Reed is such a mournful lament—"High on a mountain standing all alone / wondering where the years of my life have gone"—that it chokes me up every time I play it. The luminous recording of this group—which features the girl I want to run away with, singer Noah Wall—is a potent mix of musical and recording artistry. With the 340i headphone stage, I felt like Noah Wall was standing directly in front of me; I could have reached out and touched the mandolin and violin players with my left and right hands respectively. Chesky's binaural imaging was accurately described, but the roadhouse punch was missing. With the Audeze EL-8s, the plucked bass was soft and overly warm. Wall's vocals were nicely textured but less "in-the-room" than with the 230HD. The highs were sometimes quite attractive and non-fatiguing—but neither precise nor extended.

Unlike the 340i's phono stage and DAC, which are extraordinary enough to satisfy over the long haul, I suspect most high-end headphone junkies will feel the need for a better-quality headphone stage. If so, Simaudio is ready: the 230HD (\$1500 w/DAC) and 430HA (\$3500–\$4300) would be natural choices.

Comparison: Rogue Audio Sphinx

As I have with the Magnepan .7s, I've been constantly rediscovering how just how much I love Rogue Audio's Sphinx integrated amplifier, the very first product I reviewed for *Stereophile* in August 2014.² Folks, this baby jumps, thumps, and sings as it has no right to for \$1295. But the Moon Neo 340i showed me exactly what I should expect for not quite four times the Sphinx's price: The Neo 340i delivered levels of microdetail, refined transparency, and mercuric nimbleness the Rogue can only hint at. The Moon described a recorded soundspace with the kind of tactile precision delivered by only the most expensive amplifiers. While the Sphinx plays the lowest octaves with masterful ease, the Neo showed me bass notes in full—unblurred and ungeneralized, from start to finish.

Comparison: Hegel Music Systems H160 and Line Magnetic LM-518IA

The Hegel Music Systems H160 (\$3500) is a bold mountain climber of an integrated amplifier. Well trained and strong, it conquers your speakers with adolescent eagerness. But! The H160 plays music with a kind of bourgeois moderation

ASSOCIATED EQUIPMENT

Analog Sources Pioneer PLX-1000 turntable, Ortofon 2M Black cartridge; Thorens TD 124 Mk.I turntable, Abis SA 1.2 tonearm, Zu Denon DL-103 or Jasmine Turtle cartridge; Technics SL1200 Mk.2 tonearm, SME M2-9 tonearm, Soundsmith Carmen or Shure SC35 cartridge; VPI Scout Jr. turntable, Ortofon 2M Red cartridge.

Digital Sources Onkyo Integra DPS-7.2 disc player, Halide DAC HD DAC.

Preamplification Intact Audio step-up transformer; Blue Horizon Ideas Profono, Schiit Audio Mani phono stages.

Integrated Amplifiers Hegel Music Systems H160, Line Magnetic LM-518 IA, PrimaLuna ProLogue Premium, Rogue Audio Sphinx.

Headphone Amplifiers Audeze Deckard, Linear Tube Audio microZOTL, Schiit Audio Asgard, Simaudio Moon Neo 230HAD.

Headphones AKG K812, Audeze EL-8, AudioQuest NightHawk.

Loudspeakers Dynaudio Excite X14, Falcon Acoustics LS3/5a, KEF LS50, Magnepan .7, Technics SB-C700.

Cables Speaker: AudioQuest Type 4, Auditorium 23, Kimber Kable 8TC.

Interconnect: AudioQuest Big Sur & Cinnamon & Golden Gate, Auditorium 23, Kimber Kable Silver Streak.

Accessories Sound Anchor stands, Moongel stylus cleaner, Dr. Feickert Analogue cartridge-alignment protractor.

—Herb Reichert

The Maggies' infamous hunger for current was satisfied.

that makes me yearn for a more bohemian libidinousness. Similarly, the Simaudio Moon Neo 340i's well-manicured precision made me wish for an occasional taste of slutty voluptuousness. On those days, I switched to the Line Magnetic LM-518 IA (\$4400). Neither the Hegel nor the Simaudio could match my Line Magnetic for brilliant Van Gogh colors, verdant textures, or riotous debauchery.

60% pinot noir, 40% chardonnay

While it plays music beautifully, it's unlikely that the Simaudio Moon Neo 340i integrated amplifier was created for the inexperienced audiophile. Its virtues are substantial and varied, but much of its wonderfulness is subtler than my descriptions suggest. The character of its lively sound was strong—but a *quiet* strength. None of its charms jumped out and mugged me. It danced and sang well, but at its core, the Neo 340i was really about refinement and consistency. Through it, music sounded fresh and subtly articulated, always in good balance and proportion. Like Marantz's classic tube gear, which it resembled in sound and appearance, this integrated amplifier was created for audio cognoscenti—those who know how rare a really well-engineered amp actually is. For these reasons, I believe the Moon by Simaudio Neo 340i will hold its value: The way it satisfied this listener with its Champagne Brut audio aesthetic should never go out of fashion. Confidently recommended. ■

² See www.stereophile.com/content/rogue-audio-sphinx-integrated-amplifier.

KEN MICALLEF

Spec RPA-W7EX Real-Sound

POWER AMPLIFIER



I'm a jazz lover. To be specific: I'm a lover of jazz on *vinyl*. I'm referring not to my sexual proclivities but to 33 $\frac{1}{3}$ rpm LPs from such venerable labels as Blue Note, BYG Actuel, Contemporary, ECM, ESP-Disk, Impulse!, Prestige, and Riverside. Nothing hits the sweet soul spot of this former jazz drummer and devout jazz head harder than Tony Williams's riotous ride-cymbal beat, Hank Mobley's carefree tenor-saxophone shouts, Charles Mingus's gutbucket double-bass maneuvers, or Bill Evans's haunting piano explorations. Jazz and vinyl both may constitute narrow slivers of music sales, but millions of us around the globe are on a constant hunt for exceedingly rare, grail-like jazz LPs, which we spin on our turntables with an equally holy reverence for the musicians' achievements.

My love of jazz and jazz vinyl has strongly informed my choice of playback gear: a Kuzma Stabi S turntable (known informally as "the pipe bomb"—a reference to its brass-rod chassis) with Kuzma Stogi tonearm and Denon DL 103 cartridge, Shindo Laboratory tubed preamp and power amp, and DeVore Fidelity Orangutan O/93 full-range speakers.

A sleek minimalist cocoon: the Spec RPA-W7EX

Yazaki has had more than 40 years' experience in building and refining audio products.

This collection of wood, metal, glass, and wire has helped me experience sensory and musical bliss. Tubes rule. Life without Sylvania, Telefunken, and Mullard is life lacking proper aural nourishment.

Probably like you, I've worked for years to refine my audio system, perched in my bachelor pad high above the bridge-and-tunnel-crowd din of Greenwich Village. I've spent as many years collecting LPs, and purchasing, ripping, and selling CDs—and listening, listening, and more listening. My choices of tubed over solid-state, analog over digital may not be yours, but I hope we can agree that what dictates the choices of *all* of us is the music—or, at least, that it should.

Many a listener has gone from solid-state to tubed amplification, including Spec Corporation founders Shirokazu Yazaki and Tsutomu Banno. Combine a mad audio DIYer (Yazaki) with an adventurous circuit designer/engineer

SPECIFICATIONS

Description Class-D stereo power amplifier. Inputs: 1 pair unbalanced (RCA), 1 pair balanced (XLR). Speaker connections: 2 pairs 4mm banana-plug binding posts. Modes: Stereo/Mono/BTL. Maximum output: 100Wpc into 4 ohms, stereo mode (17dBW). Frequency re-

sponse (6 ohms, 1W): 10Hz–30kHz, ± 1 dB. Total harmonic distortion: 0.02% at 1kHz, 80% output. Input sensitivity, gain: 300mV RMS, 37.3dB at max volume into 6 ohms, 1kHz, unbalanced input. Electrical consumption: 9Wpc (idle), 150Wpc (maximum output). **Dimensions** 13.7"

(350mm) W by 3.7" (95mm) H by 14.6" (375mm) D. Weight: 13.6 lbs (6.2kg).

Finishes Silver; spruce and maple side panels and footers.

Serial number of unit reviewed 0009.

Price \$5995. Approximate number of dealers: 5.

Warranty: 1 year.

Manufacturer Spec Corporation, 4-1 Kiou-Cho, Chiyoda-ku 102-0094, Japan.
Tel: (81)-3-6272-6011.
Fax: (81) 3-6272-6468.
Web: www.spec-corp.co.jp.
US distributor: Tone Imports.
Web: www.toneimports.com.

(Banno)—they respectively helmed technological breakthroughs at TEAC/Pioneer Japan and International Rectifier—then let them share their wisdoms in novel class-D amplifier designs, and . . . the Spec RPA-W7EX Real-Sound amplifier (\$5995) is ready for show time.¹

Description

The RPA-W7EX Real-Sound is the only stereo power amplifier in Spec's USA product line, which includes integrated amplifiers, a turntable, Real-Sound speaker attenuators, and Mica capacitors. As with most amplifiers based on class-D circuits, Spec claims for the RPA-W7EX high resolution, an exceedingly low noise floor, extremely efficient heat dispersion, abundant power,

¹ The company prefers that its name be written in caps, *ie*, SPEC. However, we reserve that usage for company names that are actual acronyms.



Spec and span: sealed steel casework makes for a clean interior.

Mechanical engineer Yasuhiro Yamakawa used large slabs of natural wood for the side panels and footers.

and the ability to drive practically any speaker. Shirokazu Yazaki has had more than 40 years' experience in building and refining audio products for his own use, including a single-ended tube amplifier built around a GEC DA30 directly heated triode, which drives a horn speaker system comprising Altec 414A woofers, Onken OS-500MT mid/high drivers, and matching SC-500 wooden horns. However, he envisioned something unique for Spec's first class-D stereo power amp.

Like all class-D designers, Yazaki and Banno

MEASUREMENTS

When I unpacked the Spec amplifier for testing, I was at first confused: Although Ken Micallef was supposed to have reviewed Spec's RPA-W7EX, a label on the amplifier's rear panel identified it as an "RPA-W5ST." It turned out that this very early export sample of the 'W7EX had been assembled before the correct labels were ready. Jonathan Halpern, of US distributor Tone Imports, assured me that the review sample was representative of current

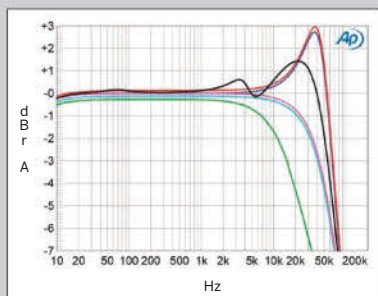


Fig.1 Spec RPA-W7EX, unbalanced frequency response at 2.83V into: simulated loudspeaker load (gray), 8 ohms (left channel blue, right red), 4 ohms (left cyan, right magenta), 2 ohms (green) (1dB/vertical div.).

production.

Reassured, I performed a full set of measurements on the RPA-W7EX using my Audio Precision SYS2722 system (see the January 2008 "As We See It," www.stereophile.com/content/measurements-maps-precision). As the 'W7EX has a class-D output stage, there was around 310mV of RF noise present at its output.¹ For almost all the measurements, therefore, I used an Audio Precision AUX-0025 passive low-pass filter ahead of the analyzer, which eliminates noise above 200kHz that would otherwise overload the analyzer's input stage.

As KM found, the 'W7EX has very high gain. Feeding a 1kHz tone at 100mV into the single-ended input (Line 1) or the balanced input (Line 2) resulted in a level at the speaker terminals of 7.8V into 8 ohms: a voltage gain of 37.85dB, which is 10dB higher than the norm. The switched 6dB pad on the rear panel reduced the gain by 7dB for both inputs. (The balanced gain was measured with pin 1 on the generator's XLR jack floating. If I connected pin 1 to ground, the usual condition for a balanced source, the gain decreased by

4.5dB!) Both inputs preserved absolute polarity (*ie*, were non-inverting). The unbalanced input impedance was on the low side, at approximately 7500 ohms at audio frequencies. The balanced input impedance with pin 1 floating was 7650 ohms. Capacitor-coupled source components that have an output impedance that rises at low frequencies will sound a little lean with the RPA-W7EX.

The output impedance at low and middle frequencies was usefully low, at <0.1 ohm (including 10' of speaker cable), though it rose to greater than 1 ohm at 20kHz. As a result, the modulation of the amplifier's frequency response with our standard simulated test load was ± 0.3 dB below 10kHz (fig.1, gray trace), but with the top octave boosted by up to 1.5dB. This graph was taken without the AP low-pass filter; a 3dB peak centered on 38kHz

¹ The Spec RPA-W7EX emitted more RF interference than I have encountered with other class-D amplifiers. In my test lab I have a transistor radio permanently tuned to NPR on FM. When I turned on the 'W7EX, it wiped out FM reception with noise that was modulated by the audio signal being amplified by the Spec amplifier. This has not happened with class-D amplifiers since I tested some inexpensive models, many years ago.



Q: What **sounds better** than a short cable?

A: No **cable** at all.

This core concept is one everybody knows. Two components directly connected with no cable in between will produce the best possible sound your gear is capable of. The moment cable is added, no matter if it's zip cord or the most expensive you can buy, detail and dynamics are sacrificed.

Testing vs. Comparing

Most companies judge cable performance by comparing one cable to another. This method has no frame of reference for what is being lost, and only shows how they vary from each other. Wireworld scientifically tests its cables during development against a direct connection, refining design and materials to achieve detail and openness that most closely matches the reference. We call this method the Audio Cable Polygraph.

Robert Harley of *The Absolute Sound* says this method provides “illuminating insight into exactly how each cable affects the sound.”

Here to Stay & Built to Last

Wireworld has been in business over 23 years and designer David Salz had been developing our testing method and refined geometries for over three decades. It can be difficult to tell what is real and what is not with so many fly-by-night brands popping up making grandiose claims. But the truth is in the test. If you're still skeptical because you consider sound quality subjective, then the physical and aesthetic quality is something you will appreciate.

Robert Archer of *CEPro* says, “I am impressed with the materials, secure and sturdy terminations, the feel, build quality and bulletproof construction.”

When you're ready to graduate from 'flavor-of-the-month' to pure high fidelity, cable up with Wireworld.



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DNA Helix U.S. Patent #8,569,627

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worked to overcome class-D's typical problem of brittle, bass-deficient sound—what Michael Fremer has described as “all outer shell, very little creamy center.” Yazaki's solution began with the choice of capacitors used in the RPA-W7EX's low-pass filter—the exit point in a class-D amplifier's output stage. Yazaki is well-versed in the sounds of various capacitors: In the early 1990s, he used vintage Black Beauty and Black Cat caps to upgrade his own Marantz 7K, a '70s-era kit preamplifier that has long impressed him with its musicality.² He also experimented with West Cap's oil-filled capacitors in his homebrew DA30-based SET amplifier, and in his early class-D prototypes. West Cap eventually became Arizona Capacitors,³ some of whose paper-in-oil capacitors are used in various Spec products; Yazaki says they have a “gorgeous and rich mid-to-low range” and a “pure and beautiful mid-to-high end.”

Other noteworthy choices in the RPA-W7EX's design include Tsutomu Banno's “ground-plane branching” circuit-board layout, mica-dielectric capacitors sourced from India, and Teepro-Vamistor resistors. Fast-recovery ROHM/Schottky silicon-carbide (SiC) diodes were, in Banno's words, used to “eliminate” the high-frequency noise generated by class-D pulse-width-modulation (PWM) switching, a perpetual problem in class-D designs. Additionally, while many class-D amps have a single amplifier module, Banno used in the RPA-W7EX a hybrid two-in-one approach, integrating the driver and DirectFET MOSFET of International Rectifier's AUDAMP4 with a PowIRaudio IR4301 module. As a result, the RPA-W7EX can output up to 100Wpc into 4 ohms.

The RPA-W7EX measures 13.7" wide by 3.7" high by

14.6" deep: not much bigger than a stack of three large notebook computers. Its case and chassis are made of steel—it looked svelte in my Salamander rack, felt lighter than its 13.6 lbs, and seemed to produce no heat at all. This is evidently what made it possible for mechanical engineer Yasuhiro Yamakawa to use large slabs of natural wood for the side panels and footers, effectively sealing the RPA-W7EX in a sleek, minimalist cocoon.

“The switching operation doesn't produce heat,” Banno explained in an e-mail exchange, “so using a wood base is effective for creating natural, REAL SOUND [*his emphasis*]. In addition, because there is no heat we can fully enclose the case. No dust enters the unit. No heat leads to long reliability because cyclical heat is not good for parts and solder.

“Wood dampens vibrations and resonates with the audio signal. Accordingly, the tone becomes more natural, rich, and melodious because of the wood. Intriguingly, I think of it like a musical instrument. [*Banno is a cellist.*] After many experiments, we found that the combination of spruce and maple worked best. In the RPA-W7EX the wood is of three-layer construction: spruce for damping the main chassis, maple and spruce for the three footers.”

I popped the RPA-W7EX's lid, uncovering five circuit boards connected by tidy, all-copper wiring. On the largest board was the International Rectifier AUDAMP4 class-D

2 Later that decade, Yazaki led the design team that created one of the first universal SACD/DVD-A/DVD-V players, the Pioneer DV-AX10—see www.stereophile.com/hirezplayers/515/index.html—thus the old Marantz 7K played a role in voicing one of the most noteworthy products of 2000.

3 The products of Arizona Capacitors are now distributed in Japan exclusively by Spec.

measurements, continued

can be seen with the amplifier driving an 8 ohm load (blue and red traces), but was absent into 4 ohms (cyan, magenta) or 2 ohms (green). The rise in output impedance above 10kHz drops by 4dB the level at 20kHz into 2 ohms. The frequency response was the same for unbalanced and balanced inputs, and with the 6dB pad in circuit. The response peak into 8 ohms resulted in a degree of overshoot on the leading edges with a 1kHz squarewave (fig.2), which, with a 10kHz squarewave (fig.3), can be seen to be associated a

single damped cycle of ringing.

When I reinserted the AP low-pass filter, the Spec's unbalanced channel separation at 1kHz and below was good, at 75dB R-L and 92dB R-L, but decreased to 50dB at the top of the audioband. Balanced separation was not quite as good. There was a problem when I examined the 'W7EX's signal/noise ratio: The measured figure was best when I floated the unbalanced input's ground, a situation that will not be encountered when the Spec is connected to the unbalanced outputs

of a real-world CD player, DAC, or preamplifier. The A-weighted S/N was 78dB, ref. 2.83V into 8 ohms, worsening to 65dB with an unweighted wideband measurement, which is marginal, in my opinion. Fig.4 shows a spectral analysis of the RPA-W7EX's low-frequency noise floor as it drove a 1kHz tone at 1W into 8 ohms. The spectrum, taken with the generator's ground floating, consists of random noise at a level equivalent to around 12 bits of resolution. Connecting the shell of the RCA jack to ground introduced

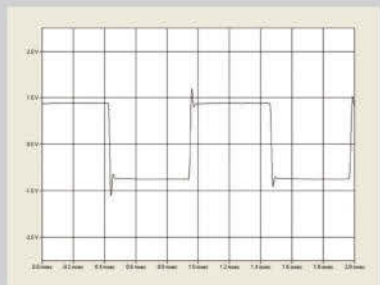


Fig.2 Spec RPA-W7EX, small-signal, 1kHz square-wave into 8 ohms.

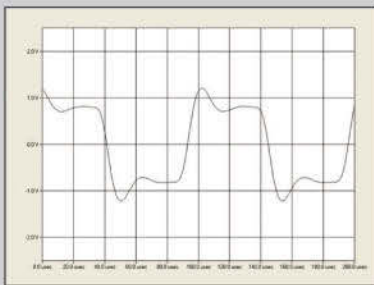


Fig.3 Spec RPA-W7EX, small-signal, 10kHz square-wave into 8 ohms.

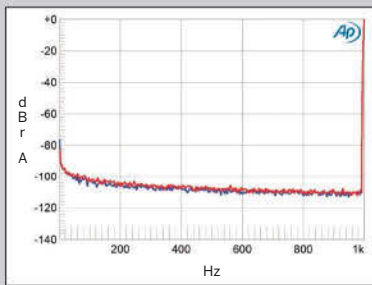


Fig.4 Spec RPA-W7EX, spectrum of 1kHz sine wave, DC-1kHz, at 1W into 8 ohms (linear frequency scale).

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amplifier module, which contains four large Nichicon caps, a small potted IRAUPS3 transformer (or choke), and a tiny, side-mounted circuit board. On the second board—directly connected to the RPA-W7EX's power receptacle, fuse, and on/off switch—are smaller Nichicon caps, a Talema potted toroidal transformer, and a single Arizona C50309-6223K Blue Cactus capacitor. The third board comprises many large and very small caps, two inductors, numerous diodes, and two tiny elevated boards, all wired directly to the amp's speaker terminals, input-selector switches, and RCA and XLR jacks. All in all, it's a beautifully constructed amplifier, inside and out.

Engraved on the center of the front panel is Spec's logo, which seems to depict the sun rising low on the left flank of a Fuji-like mountain—or maybe it's just a lower-case d and an upper-case A, representing the *designer audio* slogan that Spec puts on many of their products . . . ? At the far right is an inch-long, On/Off Power toggle, sourced from the aircraft industry. To power up the RPA-W7EX, you gently pull the spring-loaded toggle, then snap it into its up position. The red Off LED flashes for a second or two, and then the green On LED glows steadily, to confirm power engagement. The switch operation felt professional and elegant—as if I were powering up my own personal Learjet.

On the Spec's rear panel are, from left to right: the power receptacle, a fuse plug, and a mini-plug input for Spec's



Note the gain switch on the Spec's rear panel.

The amplifier had sonic qualities I usually associate with tube amplification.

H-VC1 hardwired external volume control (\$400). To the right of that jack is a gain switch with three positions: maximum gain, -6dB, and the setting for use with the H-VC1. In my system, the maximum setting provided way too much gain—I couldn't turn the volume knob on my Shindo Allegro preamp, itself a high-gain device, past 7 o'clock!—and the -6dB setting didn't provide enough attenuation: The H-VC1 was practically a necessity.

Then come two pairs of banana speaker terminals made by Aec Connectors Co., Ltd., of Taiwan, and a three-position switch for choosing between normal stereo operation, mono operation with the same signal appearing on both pairs of output terminals (useful for biwiring a system with two RPA-W7EX amplifiers), or strapped monoblock operation, with signal on only one pair of terminals. Finally,

measurements, continued

spectral spikes at 60, 180, and 300Hz. Though it's fair to note that the highest-level hum component lies at -77dB (0.014%), this behavior suggests that there is something not quite optimal about the 'W7EX's internal grounding.

I examined the way the Spec's percentage of THD+noise changes with output power into 8 ohms via the AP0025 filter (fig.5): The downward slope of the trace at low powers reveals that any distortion is buried under the noise floor below 15W or

so. With clipping defined as the power when the THD+N equals 1%, the Spec clips with both channels driven at 43W into 8 ohms (16.33dBW). Into 4 ohms (fig.6), the amplifier clips at 80W (16.02dBW), which is lower than the specified 100Wpc into 4 ohms (17dBW). (The amplifier does meet its specified output power at 3% THD+N.) To produce fig.7, I plotted how the THD+N percentage varied with frequency at a level, 9.8V (equivalent to 12W into 8 ohms, 24W into 4 ohms,

or 48W into 2 ohms), where I could be sure I was examining actual distortion rather than noise. The results are shown in fig.7: Into 8 ohms (blue and red traces) and 4 ohms (cyan, magenta), the distortion is very low below 1kHz, but rises above that frequency. Into 2 ohms (gray), the trace stops at 300Hz—at this point, the RPA-W7EX went into protection mode after having operated at this level for the 30 seconds or so the test had taken up to then. I turned off the generator; the

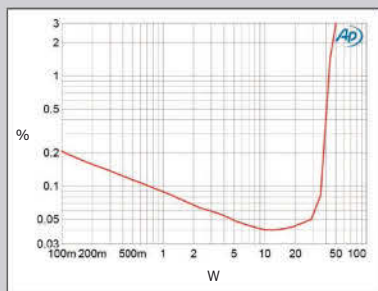


Fig.5 Spec RPA-W7EX, distortion (%) vs 1kHz continuous output power into 8 ohms.

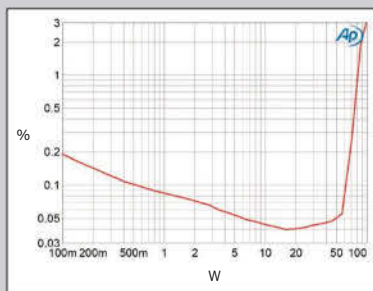


Fig.6 Spec RPA-W7EX, distortion (%) vs 1kHz continuous output power into 4 ohms.

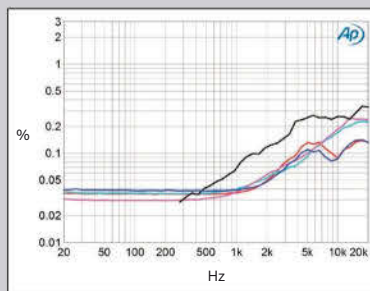


Fig.7 Spec RPA-W7EX, THD+N (%) vs frequency at 9.8V into: 8 ohms (left channel blue, right red), 4 ohms (left cyan, right magenta), 2 ohms (left, gray).

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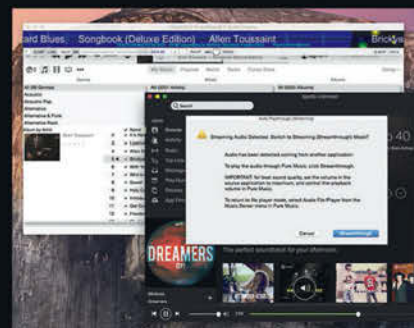
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on the far right are Aec RCA and XLR input jacks, with a three-position selector switch for choosing between single-ended inputs (RCA), balanced inputs (XLR, with pin 2 hot), and balanced inputs with -6dB attenuation.

Listening

New York City provides ample diversion for the LP collector. With new vinyl-only stores opening practically every month, even a hardened jazz collector like the late writer and cartoonist Harvey Pekar would have had a great time searching for sides. Pekar swore off collecting LPs long before he became famous for his wonderful *American Splendor* comics and the film of that title. Like the pre-Hollywood Pekar, I visit my favorite vinyl vendors weekly. After cleaning my new sides, I often invite friends over to listen to them.

Yazaki, Banno, and Spec mechanical engineer Yasuhiro Yamakawa seem to have chosen the RPA-W7EX's parts wisely and well. The amplifier had sonic qualities I usually associate with tube amplification: sweet 'n' saturated tonal colors and palpable instrumental textures, coupled to startling microdynamics that left me slack-jawed in wonder, enjoying LPs anew for hours on end. Disc after disc, I felt I was experiencing fresh musical truths. Sometimes, as with



The Spec amplifier features Nichicon premium capacitors.

ca-1962-'66 Blue Note "New York USA" LPs such as Wayne Shorter's *Night Dreamer* (LP, Blue Note 84173) or Andrew Hill's *Compulsion!!!!* (LP, Blue Note 4217), the revelation was as simple as hearing greater definition and more pronounced dynamic distinctions between instruments. Other times, as when playing Artur Schnabel's set of Chopin's Scherzos (LP, RCA Living Stereo LSC-2368), the flow of the notes, the resonance of the recording studio, the percussiveness of the piano's hammers, and Schnabel's mastery of touch and interpretation, all made for a new experience of

heart and mind.

The Spec RPA-W7EX was unforgiving of lesser recordings, but when presented with a well-recorded album, such as Sonny Rollins's soundtrack music for *Alfie* (LP, Impulse! A-9111), or doomed jazz singer Beverly Kenney's *Come Swing with Me* (LP, Royal Roost RLP 2212), this modest-looking amplifier was positively surgical in its retrieval of low-level information—yet it achieved the not-so-easy feat of doing so without sounding sterile or clinical. With every LP and digital file I sent its way, the Spec exposed the recording's unique tonal, dynamic, and textural elements with natural spirit and a practically feminine touch.

To answer the nagging question "Can the Spec bass-

measurements, continued

amplifier's output turned back on, but this result suggests that the 'W7EX should not be used with loudspeakers whose impedance drops much below 4 ohms.

Examining the residual THD+N waveform with a digital oscilloscope didn't prove very illuminating, as any distortion was buried beneath the HF noise that was present even at a fairly high power (fig.8). But this graph does hint at what could be clearly seen on a 20MHz analog 'scope: there were HF noise bursts that coincided with the

waveform peaks. Spectral analysis at this power level (fig.9) reveals that the Spec's harmonic-distortion signature comprises low-order spurs, all at or below -90dB (0.003%). When I then fed the RPA-W7EX the very demanding combination of 19 and 20kHz tones at an output level just below visual clipping on the 'scope into 8 ohms, the actual intermodulation distortion was relatively low (fig.10), the 1kHz difference component lying at -94dB (0.0015%). The higher-order products are 20dB higher in level, however, and

the noise floor looks ragged, something that gets worse into lower impedances.

KM very much liked the sound of the Spec RPA-W7EX. I, however, was disappointed by its measured performance—modern class-D amplifiers, especially those using one of the Hypex modules, measure very much better than this. And with its low input impedance, its dislike of load impedances below 4 ohms, and its high levels of radiated noise, this not an amplifier that can be universally recommended, I feel. —John Atkinson

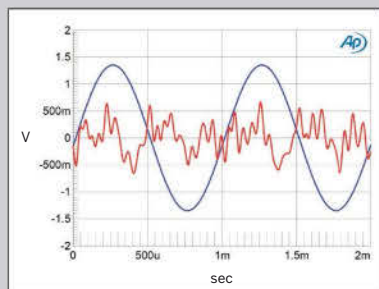


Fig.8 Spec RPA-W7EX, 1kHz waveform at 60W into 4 ohms, 0.043% THD+N (blue); distortion and noise waveform with fundamental notched out (red, not to scale).

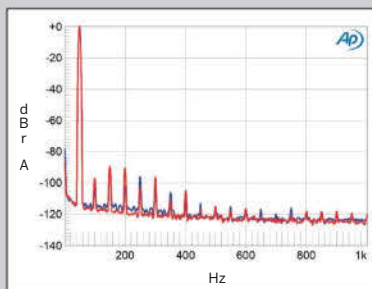


Fig.9 Spec RPA-W7EX, spectrum of 50Hz sine wave, DC-1kHz, at 60W into 4 ohms (linear frequency scale).

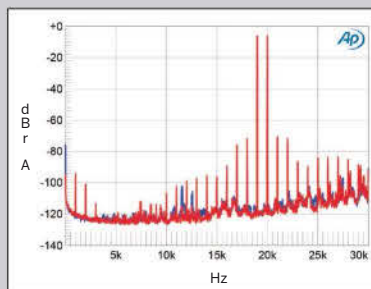


Fig.10 Spec RPA-W7EX, HF intermodulation spectrum, DC-30kHz, 19+20kHz at 30W peak into 8 ohms (linear frequency scale).

boogie or not?," I turned to seminal Krautrock terrain: Kraftwerk's 1974 album, *Autobahn* (LP, Vertigo VEL-2003). Fabled recording engineer Rudy Van Gelder may have been the master of capturing the double-bass sonorities of Paul Chambers, Ron Carter, and Reggie Workman, *et al*, but for bass reproduction without borders, analog synthesizers reign supreme. The *motorik* grooves of this album's title track sounded delicate and precise via the Spec, yet lacked that last degree of low-end dread. Yet musically, the track was a full-on rave, its humming, forward momentum and sleek sounds rumbling delightfully by.

I then opted for the contemporary bass-synth warfare of Brandt Brauer Frick's super-percussive *Mr. Machine* (2 LPs, K71 K7286LP). On this exquisitely recorded album, Frick plies various percussive and melodic instruments in configurations that challenge the categories of electronic, funk, and contemporary classical music. "Mi Corazon" begins with a lone bass drum pulsing 4/4, soon joined by madly pitching timpani, triangle, piano, and squirming synth bass. The Spec portrayed all of this track's graphic qualities, establishing instrumental images with sharply defined leading edges on a vividly present soundstage. Synth-bass notes buzzed under my feet like angry wasps, the Spec resolving the last iota of gasping baritone air, which recalled steam rising from a Manhattan manhole.

Not totally sated, I played a disc that goes even further in conjuring bass'n'rhythm fury from growling synths: Loscil's *Sketches from New Brighton* (LP, Kranky 171). "Second Narrows" is serene in a ghostly way, like slow-moving sea creatures in a death dance. Highly detailed, grain-free (another consistent Spec quality), and rather slimy, its bass notes dipped down with superior decay and sustain, hovering before me like the summer sun, all heat and glare. The Spec outlined Loscil's unctuous bass blobs with microdynamic precision, but the images lacked ultimate depth and weight. Resolution of this dynamic track was solid, though I didn't feel enveloped in sound. But the spectral soul of "Second Narrows" was convincing, its visceral grip on my ears and brain a thrill.

We were talking jazz, right? There is no greater mid-1960s jazz recording than Hammond B3-slaying organist Larry Young's *Unity* (mono LP, Blue Note 4221). Young innovated a unique, modal style of organ jazz that has yet to be matched. "Zoltan" highlights Young's scorching technique, accompanied by tenor man Joe Henderson, trumpeter Woody Shaw, and drummer Elvin Jones. The Spec presented Young's glowing Hammond organ pedals with ferocity and power, and, as with every recording I played through it, each instrumental line was easy to follow, regardless of the volume or the complexity of the arrangement. Even given its unparalleled resolution, the Spec's spatial depiction of this mono disc was oddly shrunken. Individual sounds were spatially well defined, with sharp leading edges, but those elements were smaller in scale than I'd heard before in my system.

Results were similar with *Workin' with the Miles Davis Quintet* (LP, Prestige 7166). The Spec re-created Davis's lyrical trumpet with the sweetest tone and quickest delivery I've ever heard, and did the same for John Coltrane's rangy tenor, Red Garland's effervescent piano, and "Philly" Joe Jones's drum set. The sound of "Philly" Joe's ride cymbal



The Spec's enclosure is tuned with—and supported by—spruce and maple.

had incredible stick definition, good cymbal body, and harmonic overtones—again, all as I'd never heard before from my rig. I realized that the Spec's tonal signature, while largely true to the source, was somewhat dark, lending a burnished feel to brasses, bass, and reeds. Paul Chambers's chugging double bass was warm and clear, but also rather soft and a mite thin.

Moving forward in the last century, Norwegian electric guitarist Terje Rypdal's self-titled 1979 album, with bassist Miroslav Vitous and drummer Jack DeJohnette (LP, ECM 1125), proffers an excellent example of producer Manfred Eicher's atmospheric approach: brilliantly recorded instruments on an expansive soundstage. The Spec purveyed every detail of DeJohnette's hyperactive drumming and Rypdal's sky-strafting guitars. Sustain and decay were superb within a swirling, stormy soundstage. As with the other recordings I'd listened to, the Spec's consistently superb retrieval of upper-register transients was thrilling.

Comparison

My 10-year-old Shindo Haut-Brion⁴ didn't match the Spec for ultimate resolution or upper-treble purity, nor did it meet that overachiever's low noise floor and startling microdynamics. But the Shindo reasserted itself with a massive soundstage that extended in all directions and suggested tremendous weight and solidity. I purchased the Haut-Brion to replace a Shindo Montrachet, in part for the former's substantial low end, equally substantial sense of scale, natural-sounding tonality, and sensuous portrayal of instrumental textures. In the first two out of those four traits, the Spec couldn't compete.

Caveat

In evaluating the Spec, I found Music Hall's hirsute Moos Mat an indispensable accessory for my Kuzma Stabi turntable. When I laid LPs on my usual record mat—Music Hall's Aztec Blue—the Spec's sound could be small, and lack the low-end fundamentals it had with the Moos atop my Kuzma pipe bomb.

But on the last day I did any listening for this review, I received from Jonathan Halpern of Tone Imports, Spec's US distributor, the Spec AP-UD1 Analog Disc Sheet (\$350): a disc of aluminum coated in a "soluble resin." Compared with the Moos, the Sheet focused the midrange, seemed to lower the noise floor, and increased resolution. The sound

⁴ Reviewed by Art Dudley in February 2012; see www.stereophile.com/content/listening-110.

became purer, more spacious, and more liquid—definitely more enjoyable. Could this be an easier way to get Spec's Real-Sound? Time will tell.

Conclusion

The Spec RPA-W7EX Real-Sound proved its \$5995 worth as a benevolent truth teller, consistently wowing me with how well it wrested the last bit of information from every LP I played. Its first-rate resolution and seemingly nonexistent noise floor made possible many late nights of discovering new sounds from old LPs.

Everyone I've invited to my penthouse pad to hear the RPA-W7EX has been enchanted by its superbly detailed reproduction of music: never clinical or mechanical, yet consistently natural. The Spec's sound *flowed*. Its fast release of notes, and subtle but powerful tonal and rhythmic abilities, revitalized my LP collection. Regardless of the volume level or the recording's inherent dynamics, the Spec's remarkable resolution, first-rate imaging, and spot-on tonal colors remained constant, and the amplifier was never flustered by wide dynamic range or steep power demands. And while the Spec's bass weight, soundstage, and general warmth fell far short of my reference Shindo Haut-Brion, those MIA qualities were evident only in direct comparisons, not when I listened to the Spec on its own. Playing jazz, boogie-woogie, or electronic gumbo, the Spec provided the kind of natural bass frequencies any music lover could hope for.

The Spec RPA-W7EX expresses the colorful soul and vivid textures of a tubed amplifier with the unfaltering resolution, vanishingly low noise floor, and power of the best class-D switching amplifiers. In my opinion, class-D

ASSOCIATED EQUIPMENT

Analog Sources Kuzma Stabi S turntable & Stogi tonearm; Denon DL-103, Ortofon 2M Red cartridges.

Digital Sources Apple MacBook computer, Halide DAC HD, Western Digital T2 Mirror Drive (2).

Preamplification Auditorium 23 A23 moving-coil step-up transformer, Shindo Laboratory Allegro preamplifier.

Power Amplifier Shindo Laboratory Haut-Brion.

Loudspeakers DeVore Fidelity Orangutan O/93, Snell Type J/II.

Cables Interconnect: Analysis Plus, Shindo Laboratory. Speaker: Auditorium 23.

Accessories Music Hall Aztec Blue & Moov record mats; Clearview Double Helix Mk.II power strip (on loan); Salamander five-tier rack; IKEA Aptitlig bamboo chopping boards (under turntable, preamp, power amps); Maple-shade Isoblocks & 3" studio treatment foam damping of ceiling & walls.

Listening Room 12' L by 10' W by 12' H, system set up along short wall; suspended wood floor; 6"-thick walls (plaster over two-by-four construction); wood-beamed ceiling.—Ken Micallef

amplification still has a way to go before it can unseat the best tubed and class-A amps from their royal positions as kings of the high-end hill. But while \$5995 isn't cheap, Spec's RPA-W7EX Real-Sound has made a big crack in the kings' imperial fortress. ■

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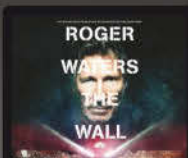
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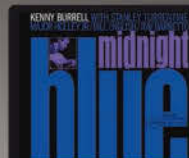
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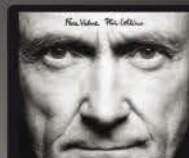
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Kenny Burrell | Midnight Blue
All Music Matters 180g 33 1/3rpm LPs



Phil Collins | Face Value
Rhino 180g LP



Everclear | So Much For The Afterglow
Intervention Records 180g LP



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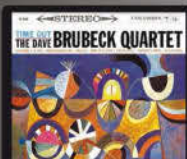
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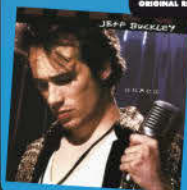
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RECORD REVIEWS

It's a classic case of addition by subtraction. On December 23, 1964, on a flight from Houston to Los Angeles, Brian Wilson had a panic attack—or, perhaps, a full-fledged nervous breakdown. Two more such episodes followed in quick succession, and Brian realized that he could no longer tour with the Beach Boys. At first, Glen Campbell was brought in to replace him in the band's touring edition, until Bruce Johnston permanently took his spot. In an interview conducted by Earl Leaf, quoted by Tom Nolan in the October 28, 1971, issue of *Rolling Stone*, Wilson had this to say about his decision:

"I told them I foresee a beautiful future for the Beach Boys group but the only way we could achieve it was if they did their job and I did mine. They would have to get a replacement for me . . . I didn't say 'they.' I said 'we' because it isn't they and me, it's 'us.'"

"That night when I gave them the news of my decision, they all broke down. I'd already gone through my breakdown—and now it was their turn. When I told them, they were shook. Mike had a couple of tears in his eyes, he couldn't take the reality that their big brother wasn't ever going to be on the stage with them again. It was a blow to their sense of security, of course."

The first product of that decision was *Today!*, a collection of songs that sound like the first steps toward Wilson's eventual masterpiece, *Pet Sounds*. Just as the beginnings of the innovation and creativity that eventually coalesced into the Beatles' *Sgt. Pepper's Lonely Hearts Club Band* became audibly apparent in *Rubber Soul* and *Revolver*, *Today!* and *Summer Days (and Summer Nights!!)* are the obvious musical and intellectual predecessors of *Pet Sounds*.

On *Today!*, the first sign that things had changed was that not a single tune has anything to do with surfing or hot rods in the title. While the album opens with a take of "Do You Wanna Dance?" done in an obvious Phil Spector-ish wall-of-sound production

EDITOR'S PICK RECORDINGS OF THE MONTH



THE BEACH BOYS *Today!*

Analogue Productions AAPP064 (LP).
TT: 27:35

Summer Days (And Summer Nights!!)

Analogue Productions AAPP065 (LP).
TT: 27:44

Both: 1965/2016. Brian Wilson, orig. prod.;
Chuck Britz, orig. eng.; Mark Linett,
Alan Boyd, stereo mixes; Kevin Gray,
mastering. ADA.

PERFORMANCE ★★★★★
SONICS ★★★★★

style, the album's first nod to a more complicated future is in the lyrics of "When I Grow Up":

*When I grow up to be a man
Will I dig the same things that turn me on
as a kid?
Will I look back and say that I wish I hadn't
done what I did?
Will I joke around and still dig those sounds
When I grow up to be a man?*

Side 2 of *Today!* concentrates on Brian's musical development—as in "Please Let Me Wonder," in which his trademark shifting vocal fusions interweave and braid with ever-increasing confidence and intricacy. This trend continues with Brian's soaring lead vocal in "She Knows Me Too Well," and the towering example of his original and ever-changing vocal alloys and layered production, "Kiss Me, Baby."

While *Summer Days* initially feels like a step backward—thanks to

filler tracks like "Amusement Parks U.S.A.," "The Girl from New York City," and "Salt Lake City"—Wilson's continued growth, emotionally and as a songwriter, is apparent in such tunes as the near-folk of side 1's "Girl Don't Tell Me" (Carl Wilson's first ever lead vocal on record) and all of side 2 that includes, the sophisticated pop of "California Girls," and "Let Him Run Wild," with Brian's bravura falsetto vocal.

Fans of mono, begin your moaning now: The most astonishing change in *Today!* and *Summer Days* are the balanced, lush stereo mixes, available on vinyl for the first time in these reissues from Analogue Productions. Pressed by AP's own Quality Record Pressing, the mixes are nothing short of a brilliant rejuvenation that all fans of this most American of 1960s pop bands will find entirely essential. They aren't merely different, or even just better—they're terrific. And this is one case in which bigger is indeed better. Every comparison to flowers fully blossoming applies: New colors and dimensions in the music abound. Wilson's grand arrangements are hugely well served by these breakthrough stereo mixes. Constructed by Mark Linett in 2012 for a series of CDs released in Japan, the mixes were converted to high-resolution digital files for these reissues (see "Brian's Song," on p.54, for more information).

But Linett, who's been the band's tape archivist for more than 30 years, had his reservations about converting these classic mono mixes to true stereo. "It's tricky. I don't like the idea of changing history. The only thing that Brian or any of his contemporaries cared about was the mono mix that came out of the AM radio and was on a 45."

That's true. But, listening to the stereo mixes of *Today!* and *Summer Days*, it's hard to deny the feeling that these new mixes are a more accurate portrayal, a fuller realization, of everything that Brian Wilson intended this breathtaking music to accomplish.

—Robert Baird

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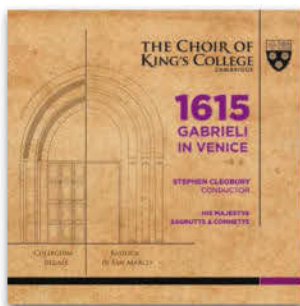

BEETHOVEN
Symphony 9

Christiane Karg, soprano; Mihoko Fujimura, alto; Michael Schade, tenor; Michael Volle, baritone; Bavarian Radio Symphony Orchestra & Chorus, Mariss Jansons
 BR Klassik 900139 (CD). 2015. Wilhelm Meister, prod.; Ulrike Schwarz, balance eng., Elisabeth Panzer, Bernadette Rüb, engs. DDD. TT: 63:23

PERFORMANCE ★★★★★
SONICS ★★★★★

After this, I may never have to review another Beethoven Ninth. Of more than 100 recordings now available, at least 25 are excellent: from Toscanini and Furtwängler through Klemperer and Karajan (1962) and Bernstein (with the Vienna Philharmonic, *not* Berlin 1990), and a few on period instruments (Gardiner, and Norrington's 2004 recording). Its familiarity has not dulled its power, and while the entire symphony is masterful, and the way it builds thematically to its final movement is not only admirable and audible but an object lesson in superb compositional style, in fine performances it always surprises and exhilarates. The one under consideration here, brilliantly and naturally recorded in Tokyo's Suntory Hall in 2012, is a swift, tight reading whose energy and lack of eccentricities make it superb—perhaps the only one you'll need.

The first movement has enraged outbursts, and sticks to its seething intensity for its full 15 minutes. The sharply attacked opening and continuing rhythms of the second movement are anything but elfin; they menace, and the percussion underscores that menace. The holy *Adagio* is gorgeous and soon majestic, never dragging, with caressing strings and handsome winds and oboes. And the finale is strapping and perfectly managed, with light growing naturally, ecstatically out of the darkness, the low strings threatening and the brass bright. Soloists are fine, and the chorus is brilliant. In all, this is a crucial performance, one that tells all about the Ninth.—Robert Levine


GABRIELI
1615: Gabrieli in Venice

In ecclesiis; Suscipe, clementissime Deus; Hodie completi sunt dies pentecostes; Jubilate Deo; Quem vidistis pastores?; Exultavit cor meum in Domino; Surrexit Christus; Litaniae Beatissimae Mariae Virginis; Magnificat; instrumental works
 Stephen Cleobury; Choir of King's College, Cambridge; His Majestys Sagbuts & Cornetts Kings College KGS0012 (SACD/CD+BD-A). 2015. Simon Kiln, prod.; Arne Akselberg, eng. DDD/DSD. TT: 73:10

PERFORMANCE ★★★★★
SONICS ★★★★★

This release comes with the same performances on a Blu-ray Audio disc encoded with Dolby Atmos, the technology used by major Hollywood studios to intensify explosions, impress with aircraft, and the like. Those of us who lack compatible players won't feel shortchanged by the amazingly rich and spacious SACD/CD, which I listened to to review this remarkable music. A special acoustic is needed for Giovanni Gabrieli's music, since he actually *composed* in stereo: he used different areas of San Marco's, in Venice, for both instrumental and vocal groups. I was weaned on a splendid Columbia recording from the late 1960s; its sheer sonic grandeur overwhelmed. I realize now that it was overkill: too many singers and players.

This new recording of nine extravagant works for voices and instruments and four for instruments alone uses 12 chorister/soloists (all male, including trebles), 12 brasses, pairs of violas and dulcians, and an organ, and the size is just right: every note, every call and response is clear, with no overlapping echo. The groups go for clarity and a celebratory religious feel rather than volume, and the overall effect is beautiful—a rehearing of music that was used for demonstration discs in the early stereophonic era. The choir and soloists of King's College, Cambridge, are as impeccably tuned as His Majestys Sagbuts & Cornetts.

—Robert Levine


WAGNER
Das Rheingold

Michael Volle, Wotan; Tomasz Konieczny, Alberich; Herwig Pecoraro, Mime; Christian Van Horn, Donner; Benjamin Bruns, Froh; Burkhard Ulrich, Loge; Elisabeth Kulman, Fricka; Annette Dasch, Freia; Janina Baechle, Erda; Bavarian Radio Symphony Orchestra, Sir Simon Rattle
 BR Klassik 900133 (2 CDs). 2015. Pauline Heister, prod.; Peter Urban, eng. DDD. TT: 2:22:48

PERFORMANCE ★★★★★
SONICS ★★★★★

There is no dearth of great recordings of this opera, from the sonic wonder of Solti/Culshaw to the 1955 Keilberth/Bayreuth, but this new concert performance under Sir Simon Rattle is one to reckon with. It is not a "monumental" or "weighty" reading; like Keilberth's, Rattle's tempi are swift, save for the cruel moments in the first half of scene iv, where Loge and Wotan torment Alberich, he delivers his curse, and the gods age. The turbulence rather than the depth of the Rhine matters here; the Rhinemaidens are truly playful, Loge and Wotan banter like old pals: this is a dramatic and witty piece of storytelling, the characters reacting to one another's words in what feels like real time. The orchestra/voice balance is ideal; no one holds back, and the big moments have fierce presence. Rhythmic and dynamic instructions are adhered to, to great effect.

Where this set stands out is in the handsomeness of the voices: there is no Wagnerian barking here. The Rhinemaidens are girlish, in tune, and lovely; the Freia of Annette Dasch is correctly alluring (for once!); Michael Volle as Wotan and Elisabeth Kulman as Fricka both sing with beautiful legato and youthful tone; Benjamin Bruns is a suave Froh; and Christian Van Horn's Donner does not exaggerate in his big scene. Burkhard Ulrich is a slick Loge, and Tomasz Konieczny (Alberich) and Herwig Pecoraro (Mime) are a slimy pair. Janina Baechle is a properly gloomy Erda. Fine Giants as well. Highly recommended.—Robert Levine

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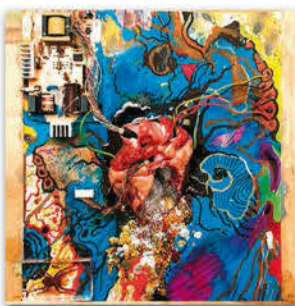
New West NW6440 (CD). 2015. Gerry Hansen, prod., eng.; Chuck Ainlay, Ed Cherney, Elliot Scheiner, Brandon Schexnayder, Bobby Tis, engs. AAD? TT: 49:49

PERFORMANCE ★★★★★
SONICS ★★★★★

Some of my favorite Americana-tilting albums have a sonic potency that marries airy atmospheric to earthy, primal playing; think records by Mark Knopfler, Chris Whitley, Buddy Miller. *Devil Music*, by erstwhile Sea Level member and Southern-rock mainstay Randall Bramblett, is in that category, due partly to a swinging, gutbucket roots'n'blues vibe headed up by Bramblett's gravel-scoured, close-miked voice, and partly to how his arrangements breathe and often even expand, to give the songs a wide-open-skies ambience.

But it's a Nashville studio affair featuring several prominent guests: fellow Southerners Derek Trucks and Chuck Leavell, plus (speaking of whom) Mark Knopfler. The Dire Straits legend shows up on the swampy opening track "Dead in the Water," here eschewing his trademark clean guitar tones for something appropriately fetid and *nasty*. Another standout is "Reptile Pilot," which reunites Bramblett with keyboardist Leavell for some Memphis-styled sax-piano R&B. Meanwhile, "Whiskey Headed Woman" pits familiar blues lyric tropes against spooky, almost free-form jazzy licks to leave the listener unsettled—haunted, even.

You want *haunted*? The title track is a groove-laden gem, part swamp rock, part gospel blooze, part field holler, inspired by a tale about the time Howlin' Wolf tried to reconcile with his estranged mother, only to be rebuffed for his trafficking in the devil's music. "Call it what you want to," mutters Bramblett, adding, almost as an afterthought, "sanctified." No kidding. —Fred Mills


TIMMY'S ORGANISM
Heartless Heathen

Third Man TMR-325 (LP). 2015. Timmy Lampinen, prod.; Adam Cox, eng. AAA? TT: 36:07

PERFORMANCE ★★★★★
SONICS ★★★★★

He ain't yer beloved collie Lassie's Timmy, that's for sure. But when the garage/punk/noise-rocking Detroit denizen known as Timmy Vulgar cranks those amps to "11," it's like a Pavlovian dog whistle for punk-inclined ears.

Vulgar (*né* Lampinen) is a bit of a latter-day underground icon, having fronted such, er, beloved outfits as the Epileptix, Clone Defects, and Human Eye, and issuing scores of recordings in the past decade, with Timmy's Organism his latest and most notorious project. For their third full-length disc, the band has landed on tastemaker Jack White's Third Man label.

A chronicle of toxic love gone worse than merely bad ("You slither in my mind / My heart turns black"), *Heartless Heathen* is also a riotous, exhilarating raveup. Right from the start, there's the Dead Boys-meets-Clash romp "Get Up, Get Out," followed a few tracks later by the brute heavy metal (replete with bass riffs and drum fills) of "Wicked Man." Elsewhere you get Ramones-go-glam ("Weather Woman") and a psychedelic pslice of Seeds-ian garage ("My Angel Above"), each a signpost of teenage-by-proxy angst. That Vulgar dude, he *remembers* the hurt.

One could make a case for the album as a no-brainer for vinyl aficionados, given the push-the-needle-into-the-red vibe. To paraphrase an old Monty Python skit, this record comes with a message for *Stereophile* readers, and that message is "beware"—of the relentless distortion, of vocals intentionally pushed back in the mix, of perversely random stereo channel effects, of a generally sludgy/midrangey sound throughout. —Fred Mills


NEIL YOUNG
Bluenote Café

Reprise 550219-2 (2 CDs). 2015. Neil Young, prod.; Niko Bolas, prod., eng.; Tim Mulligan, eng. ADD. TT: 2:29:00

PERFORMANCE ★★★★★
SONICS ★★★★★

No need to reopen the debate surrounding Neil Young's stylistic detours in the 1980s and his rocky relationship with Geffen Records; by now, it's well-known lore. More interesting, perhaps, is how Young, on getting off Geffen to re-sign with his old label, Reprise, in '88, promptly took *another* left turn, with the horns-laden, blues-rocking, corporate-rock-disdaining *This Note's for You*. The following year brought his instantly iconic song "Rockin' in the Free World," ultimately rendering *TN/Y* and the follow-up tour with his Ten Men Working band (*né* the Bluenotes) a footnote.

Hardcore Young devotees, however, have always prized those shows, which were extensively bootlegged. For his latest *Neil Young Archives* release, Young gives those fans what they've long clamored for: a two-CD (or four-LP) set primarily recorded at a handful of concerts in April and August 1988, including seven previously unreleased songs rarely heard since then. The album is, in a word, *massive*, easily as powerful as any previous Young live album—and I say that as the proud owner of every official Young release as well as 300+ bootlegs. Crackling with in-your-face immediacy (particularly Young's searing guitar, which isn't toned down a whit despite the big-ensemble arrangements) while still locating the listener in the front-center of the hall, it's clearly not just an after-the-fact document of a particular tour but the product of some deft original-source knobwork and mixing wizardry. It's likely that co-producer Niko Bolas—he and Young comprise The Volume Dealers team—had an official live release in mind all along.

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And boy, does it rock. Unlike the studio album, which at times sounded a bit self-conscious in a now-we-are-gonna-play-some-swing-blues manner, *Bluenote Café* nails the tight-but-loose aesthetic, the rhythm section perfectly in the pocket and the six horns alternating between snappy call-and-response with Young's guitar and muscular soloing. Swinging opening cut "Big Room" and the primal, undeniably sexy "Ten Men Working"—the latter, complete with primal "chain gang" grunts—in particular breathe new life into the *TNfY* material.

Three deep-catalog gems also make this a must-hear. First and foremost is the near-mythical "Ordinary People," previously heard only as a *TNfY* studio outtake on 2007's odds'n'sods *Chrome Dreams II*; this 13-minute version is epic, musically (the cinematic arrangement) and lyrically (the Springsteenian evocation of the working class). There's also a remarkable reworking of Buffalo Springfield's "On the Way Home," simultaneously sunny and elegant, with massed vocal harmonies and sweet sax lines. A 20-minute "Tonight's the Night," though, is what'll have you picking up your jawbone from the floor. Flush with adrenalin, woozy with booze, it seesaws dynamically from moody, rumbling meditations to full-ensemble blasts as frenzied as a classic Crazy Horse jam.

On this tour, the boy definitely wasn't singin' for Spuds, that's for sure. Those notes were for us, fellow fans—and, unlike a number of Young's eclectic, short-lived detours, this music has aged brilliantly. —Fred Mills

ON THE WEB

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JAZZ



**NICOLE MITCHELL,
TOMEKA REID,
MIKE REED**
Artifacts

Nicole Mitchell, flute, electronics; Tomeka Reid, cello; Mike Reed, drums
482 Music 482-1093 (CD). 2015. Michael Lintner, prod.; Dorian Gerhing, Dave Zuchowski, engs. DDD? TT: 47:15

PERFORMANCE ★★★★★

SONICS ★★★★★

The Association for the Advancement of Creative Musicians (AACM) is one of the most important organizations in jazz history. These musicians accomplished what Charles Mingus attempted with Debut Records and Harold Battiste attempted in New Orleans with A.F.O. Records: establish a path to self-determination for jazz musicians outside the restraints imposed by the traditional music industry. Fifty years later, the AACM is still creating some of the most forward-looking music on the planet.

These current AACM members all lead their own bands (check out Mike Reed's *A New Kind of Dance*), and here they pay tribute to some of the great compositions in AACM history. Cellist Tomeka Reid organized the trio, which interprets material from Roscoe Mitchell's pre-AACM "Jo Jar," Anthony Braxton's "Composition 23B," and Muhal Richard Abrams's "Munkt Munk," to Leroy Jenkins's "The Clowns" and a medley of the interrelated pieces "Bernice," by Fred Anderson, and "Days Fly By with Ruby," by Jeff Parker.

The unusual instrumentation—flute, cello, and drums—allows for some unique interpretations. Without a reed instrument or piano in the mix, the ensemble buzzes and floats its way through the set. "Jo Jar" gets a great pizzicato groove from Reid, who can drive the group with her fingerwork. "B.K." really moves on her terrific rhythm pattern, allowing Mitchell to evoke an almost Afro-Cuban feel with her flute playing. —John Swenson



JONATHAN POWELL & NU SANGHA
Beacons of Light

Jonathan Powell, trumpet, flugelhorn; Jeremy Powell, soprano & tenor saxophone; Marko Churnchetz, piano, Fender Rhodes; Luques Curtis, double bass; Kenny Grohowski, drums. With: John Ellis, bass clarinet; Louis Fouché, alto saxophone; Joe Beatty, trombone.

Truth Revolution (CD). 2015. Jonathan Powell, prod.; John Davis, eng. DDD? TT: 52:56

PERFORMANCE ★★★★★

SONICS ★★★★★

Trumpeter Jonathan Powell dedicates each of the eight tracks on his sophomore release, *Beacons of Light*, to a different inspiring figure: "Liberation" to Aung San Suu Kyi, "Lifetime" to Mahatma Gandhi, and so on. The goal of venerating spiritual or political role models is clear, yet this music also roars like a custom Ferrari. It's crisp and beautiful, nimble and smoothly gliding even at its highest speeds. The album has its sparser, contemplative moments, but they tend not to linger. Drummer Kenny Grohowski has much to do with the prevailing bold rhythm and groove, but he never overpowers in the mix, which is full and rich and scrupulously balanced.

Powell writes in a quartal harmonic vein that can recall the fiercely swinging modality of McCoy Tyner and Woody Shaw. With his brother Jeremy Powell on tenor and soprano sax, he favors rapid, imaginative lines voiced mainly in fourths or in unison. Pianist Marko Churnchetz plays an orchestrated melodic role as well, adding unpredictability to the arrangements. In "Chant," bassist Luques Curtis comes to the fore, pairing beautifully in unison passages with guest bass clarinetist John Ellis. Four overdubbed voices end the track, chanting "om mani padme hum," making explicit the Buddhist theme.

There's a relentless and unerring clarity to Powell's trumpet and flugelhorn work. He uses echo effects sparingly and with genuine musicality, pushing the sonic envelope in "Maw-lana" and other tracks. —David R. Adler

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Melco N1A music server

Editor:

The N1A Network Player should be connected to the Player Ethernet port in order to gain the full sound-quality advantage, as the Melco N1A manages the network traffic in a rather special way, and also filters out nonessential traffic such as TV sets' DNLA, keeping the feed to the player nice and clean.

If the Network Player is connected to the Player port and the LAN port is connected to the rest of the network, including a router, then the tablet connected to the network *will* control the Player that is connected to the Melco M1A—no problem.

If there is not any network connected to the LAN port, then the Melco is set to Direct mode—the Melco then gives the IP address to the network player that is connected to the Player port. In this situation, there is nothing that a tablet can connect to, so control is from the front panel of the player or the player's IR handset.

The front-panel USB port is great for connecting a DAC, but it is really convenient to import music into the Melco from a USB stick or USB HDD—the N1A simply asks "import music from front panel USB?" Click Yes, and there is bit-perfect import of music into the N1A.

Thanks for giving Melco the opportunity to respond to this review.

Michael Bloxson
Buffalo Americas

Moon by Simaudio Neo 340i

Editor:



THIS ISSUE: Melco and Simaudio respond to our reviews of their products.

One of the greatest challenges of creating an integrated amplifier that offers both a high-resolution DAC and low-noise phono stage is making it sound transparent and uncolored.

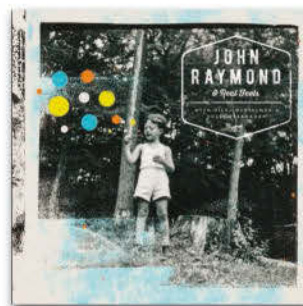
Increasing the unit's output power and current typically adds another challenge to the equation. However, based on Herb Reichert's listening experiences, combined with John Atkinson's detailed measurements, it's quite evident that we have succeeded in meeting these challenges.

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Thank you, Herb and John, for taking the time and effort to make this so abundantly clear.

Lionel Goodfield,
Public Relations & Marketing
Moon by Simaudio



JOHN RAYMOND

John Raymond & Real Feels

John Raymond, flugelhorn; Gilad Hekselman, guitar; Colin Stranahan, drums
Shifting Paradigm SP115 (CD). 2015. John Raymond, prod.; Jason Orris, Rob Oesterlin, engs. DDD. TT: 51:49

PERFORMANCE ★★★★★
SONICS ★★★★★

Today, most young jazz musicians record their own compositions, even when they are not special composers. They think they are choosing maximum creativity. John Raymond's concept of creativity runs deeper. For his third album as a leader, Raymond says that he asked himself, "Who am I as a white, Midwestern-born trumpet player? How do I be more of myself in that?"

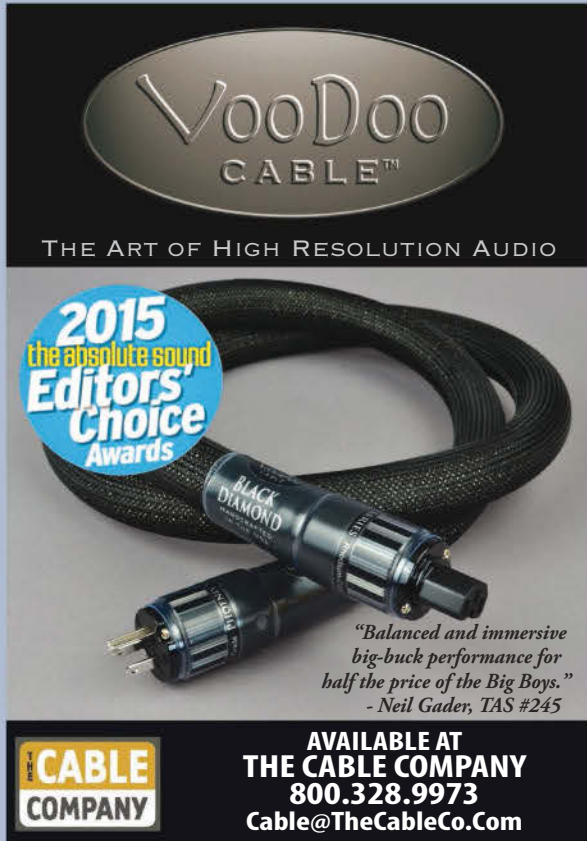
His answer was to turn his enterprising trio loose on familiar songs embedded in his life. It is striking how contemporary Woody Guthrie's "This Land Is Your Land" becomes when Raymond reharmonizes it and makes it quick and darting. "Scarborough Fair" is lovingly lingered over by Raymond and guitarist Gilad Hekselman, then floats free. "Donna Lee" credibly demonstrates that Raymond's youth included bebop. "Blackbird" belongs to everyone. Raymond's version is abstract yet personal, touching new emotion every time it returns to glance off the song.

The trio format with no bassist allows these players to operate in the moment, in open air. Raymond's flugelhorn sound is full and lustrous. His lines are bold, concise, and clear. Raymond's finest moment is "Amazing Grace," with a free-form solo prologue. He is not too hip to play this old hymn from the heart.

Real Feels was recorded in The Terarium, a studio in Minneapolis, by Jason Orris and Rob Oesterlin. It is sonically superb. The complex sensory stimuli emanating from a particular flugelhorn and a particular electric guitar are re-created with extreme verisimilitude.—Thomas Conrad

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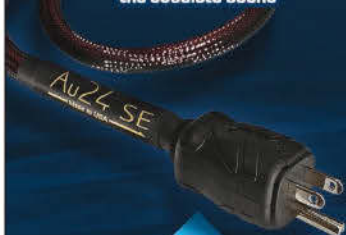
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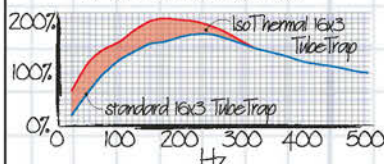
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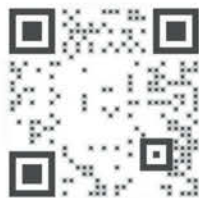
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AURAL BY ROBERT BAIRD ROBERT

The Vinyl Lifestyle

The world of music is suddenly awash in vinyl LP reissues—from legitimate labels and artists, as well as from sources that most discography websites gently term “unofficial.” Now that the return of the LP seems to have legs, Vinyl Me, Please—a company based in Boulder, Colorado (www.vinylmeplease.com)—has decided to try to make an “experience” out of vinyl reissues. They think that by pressing their LPs on heavyweight vinyl (150gm and up), often in a wild variety of colors, and adding a 12" by 12" print of specially commissioned art and a custom cocktail recipe, they can develop an audience that will make a subscription model work.

“My buddy Tyler [Barstow, now VMP’s head of content] and I were living and working together in Chicago at a tech company,” says Matt Fielder, CEO of VMP. “We were obsessed with music, and spent more time talking about music than we did anything else. I had gotten my dad’s turntable for Christmas, and wanted to start getting into vinyl but didn’t really know where to start. There were tons of albums that I loved and wanted to have on vinyl, but the thought of trying to buy all those immediately was sort of overwhelming. So we thought it would be really cool to combine the ideas of we like music, we like sharing music, we love talking about new records, and so on and so forth, while also helping build a vinyl collection.”

A year’s subscription costs \$284 (which comes to \$23.67/month). Or you can sign up for three months for \$75 (\$25/month), or try it month to month (\$27). Since January 2013, when VMP mailed its first records—a repressing of Langhorne Slim & the Law’s *The Way We Move*—Fielder and Severan Johnson, head of partnerships and business development, say they’ve signed up 15,000 members. In recent months they’ve reissued titles by Courtney Barnett, Sylvan Esso, R.L. Burnside, Ben Webster, and Youth Lagoon. I asked for copies of three of the most recent releases: Wilco’s *A.M.*, Blessed Feathers’ *There Will Be No Sad Tomorrow*, and Black Sabbath’s *Paranoid*. VMP may even have a investment factor. Fielder mentioned that their titles become collectible after the limited editions (which on their website seem to vary between 1500 and 7000) are sold out; on the Web, they’ve been known to fetch between \$50 and \$75 apiece.

From time to time, the VMP base are treated to surprises—such as two pairs of AudioQuest’s new NightHawk headphones, given to randomly selected subscribers. In fact, it was through AudioQuest that I first became aware of VMP, which was happily brought to my attention by old friend Stephen Mejias, *Stereophile*’s former assistant editor and now AQ’s VP of communications.

“We have a very strong relationship with the existing hi-fi audience,” Stephen told me, “and with new products like



“We’re not forcing it on anyone, like you need to drink this while you listen to this record. It’s just a cool way to get artists involved. On the Youth Lagoon record [the recipe] is for a gin drink that was what he was drinking when he was making the record.”

DragonFly and our NightHawk headphones, we sense the possibility of reaching a wider, more diverse audience—a younger audience. They might not typically be audiophiles, but we want to reach people who are passionate about music, passionate about creating a quality experience. That applies directly to the Vinyl Me, Please audience.”

VMP LPs are not high-end, hi-fi reissues. Fielder admits that his company’s program is designed less for crate diggers and longtime collectors (two categories I fit squarely into), and more

for the “new vinyl collector, the 25-to-35-year-old that’s, like, just starting to get into it.” I found the packages quirky and a bit overzealous. The custom cocktail for the Sabbath classic was Paranoid Black Jack, a lethal fusion of cognac, kirschwasser, cold coffee concentrate, and Demerara syrup—exotic ingredients tough to find outside bars that specialize in classic cocktails. On the inner spread of the wraparound recipe was Tyler Barstow’s ill-advised hipsteratta shot which read, in part: “the whole place is volcanic, man. real choppy and proud. think a helicopter caucus in the cave of swallows’ mouth.”

While VMP doesn’t claim to be an audiophile label, attracting hi-fi enthusiasts might be easier if they upped their game in terms of quality of pressings and the citing of source material. Of the three records I received, the yellow vinyl of Wilco’s *A.M.*, pressed at Record Industries, in Holland (and also available at wilcoworld.net), was a good-quality pressing. Black Sabbath’s *Paranoid*, pressed at Rainbo in California, was not great. While the purple vinyl was fun, it was noisy and slightly warped. When I asked the VMP guys about pressings, Fielder said that in most cases the labels they license the recordings from handle the actual LP pressing.

As for the sources of the recordings themselves, the answer was less precise. “We’re always looking for either the highest quality [source] or the original masters,” Johnson said. “Sometimes it’s a little bit harder to find; they’ve been remastered however many dozens of times over the years. But that’s always something that we’re concerned about, talking to [labels and bands] about, and understanding where that source is coming from.”

Despite all the marketing meringue, Vinyl Me, Please’s heart seems to be in the right place. “What we are really looking for is an album that’s complete from start to finish,” Fielder enthuses. “Albums that are special, things you are still going to be listening to in 10 or 15 years—the thing that’s just beneath the layer of public consciousness that we can build a really cool package around.” ■

Music Editor Robert Baird (RBaird@enthusiastnetwork.com) finds all this talk of anyone having too many records patently absurd.



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